Republic of Kenya

EDICT OF GOVERNMENT

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KS 2370 (2011) (English): Health and safety at events -– Requirements (Draft Standard)

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KENYA STANDARD

D**KS 2370: 2012**
ICS

Health and safety at events -— Requirements

First Edition 2012

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

National Disaster Operation Centre
AAR Kenya
St John Ambulance
Red Cross
Ministry of public health and sanitation
Kenya centre of emergency management trainers
Centre of disease control
Nyayo national stadium
Kenya Airports Authority (KAA) Fire and Rescue Services
Kenya Bureau of Standards — Secretariat

REVISION OF KENYA STANDARDS

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

KENYA STANDARD

DKS 2370: 2012
ICS

Health and safety at events — Requirements

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Foreword

This Kenya Standard was prepared by the disaster management Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards

The purpose of this standard is to provide a basis for understanding, developing and implementing incident preparedness and operational continuity within an organization.

This standard also establishes a common set of criteria for disaster management, emergency management, and business continuity programs. Interested parties and stakeholders require that organizations proactively prepare for potential incidents and disruption in-order to avoid suspension of critical operations and services.

This standard will proactively help organizations to document the key resources, infrastructure, task and responsibilities required to support these critical operational functions in the event of a disruption and ensure that relevant employees are aware of the preparedness and continuity arrangements and where appropriate have confidence in their applications.

During the preparation of this standard, reference was made to the following documents:

SANS 10366:2009, healthy and safety at events – requirements

Kenya national disaster response plan 2009

Occupational health and safety bill 2007

Energy regulation commission act

Electrical installation rules

Mines and geology act

Acknowledgement is hereby made for the assistance derived from these sources

Health and safety at events -— Requirements

1 Scope

This standard specifies minimum requirements for the planning, organizing and staging of events by an event organizer, whether an individual or an organization .these requirements are subject to the relevant national legislations.

2 Normative references

Public health act

The persons with disabilities ACT No. 14 of 2003

KS ISO/IEC GUIDE 71:2001 Guidelines for standards developers to address the need of older persons and persons with disabilities.

3 Definitions/Abbreviations

For the purposes of this standard, the following definitions shall apply.Where terms are not included, common usage of the terms shall apply.

3.1
Aisle
Passage at right angles to and next to or between grouped seats and that leads to an exit, a gangway, or a longitudinal walkway

3.2
Approved
Ratified by the authority that has jurisdiction over the enforcement or application of the requirements of this standard

3.3
Attendee
Member of an audience, spectator, patron, or delegate who is present at a specific indoor or outdoor event

3.4
Base-plate
Plate that is used to distribute the load from a standard or rake

3.5
Competent person
Person that has the knowledge, experience and qualifications specific to the work or task being performed

3.6
Contractor
Service provider appointed to supply goods or services to an event

3.7
Controlling body
National or international body that oversees a sport or recreational activity

3.8
Crowd barrier
Temporary or permanent structure that prevents access to demarcated areas as identified by the risk assessment

3.9
Disaster

Progressive or sudden occurrence that causes or threatens to cause death, injury, disease and damage to property, infrastructure or the environment

3.10
Emergency exit
Structural means whereby a safe route is provided for people to travel without assistance from any point in a building or structure to a place of safety

3.11
Emergency service
Essential service public organization that deals with emergencies

NOTE These organizations include organizations such as the police, fire and ambulance services.

3.12
Employer
Person who employs any person and remunerates that person or expressly or tacitly undertakes to remunerate such a person

3.13
Event
Entertainment, recreational, educational, cultural, religious, business, charitable, exhibitional, conferential, organizational and similar activities hosted at a stadium or a venue or along a route or its precinct

NOTE 1 Entertainment activities include live acts.

NOTE 2 Business activities include marketing, public relations and promotional activities.

3.14
Event organizer
Individual or organization who plans, is in charge of, manages, supervises, holds an event or sponsorship rights (or any combination of these) to or in any manner controls or has a material interest in the hosting of an event

3.15
Event safety and security planning committee
Group that is established for an event as contemplated in the relevant national legislation (see foreword), and in cases where the provisional risk categorization of an event or type of event requires the establishment of such a group

3.16
Final exit
Termination of an escape route from a venue or structure that gives direct access to a place of safety and that is positioned to ensure that people can disperse safely from the vicinity of the building or structure and from the effects of a hazard

NOTE Places of safety include streets, passageways, walkways or open spaces.

3.17
Giraffe
Jimmy jib, crane jib camera mounting device that is mobile and that has a jib and a boom that are used for special camera mount positioning

3.18
Hazard
Potentially damaging physical incident or occurrence, phenomenon or human activity (or all of these) that may cause the loss of life, damage to property, social and economic disruption or environmental degradation

3.19
Incident
Serious or violent event

EXAMPLE: Crime, accidents and attacks.

3.19.1
Major incident
Emergency that requires the implementation of special arrangements by one or more of the emergency services, the

essential services and the medical authorities or the local authority

3.19.2
Minor incident
Incident that can be easily dealt with by those services in attendance and that does not disrupt an event

3.20
Joint operations centre (**JOC)**
Centralized facility for the combined or joint tactical coordination and management of a major incident or a disaster by multi-agency operations

NOTE Multi-agency operations are run by role players such as the national police services, traffic police services, fire services, security companies, emergency medical services, disaster management representatives, other municipal services, promoters, other stakeholders and stadium/venue owners

3.21
Lifting machine inspector (**LMI)**
Person who is registered by the relevant national regulating body (see foreword) for inspection and testing of lifting equipment

3.22
Local authority
Organization responsible for the government of an area

EXAMPLES: Municipalities, metropolitan councils, city councils, town councils and local councils.

3.23
Manager
Appointed person who is responsible and is accountable for his/her scope of work that has to be undertaken relevant to an event

3.24
Media representative
Journalist, reporter, cameraman or photographer attending an event

3.25
Medical personnel
People who are employed as:

a) Medical practitioners who are currently registered with the relevant national regulating body (see foreword);

b) First aiders who have been trained by a training institution currently registered with the relevant national authority (see foreword) and whose qualifications are current;

c) Emergency care practitioners who are registered with the relevant national regulating body (see foreword); and

d) Nurses who are registered with the relevant national body (see foreword)

3.26
Monitor
Check, supervise, observe critically or record the progress of an activity or system on a regular basis in order to identify changes of potential hazards in time

3.27
Occupant capacity
Maximum number of people that can be safely accommodated at a venue

3.28
Organization
Public or private company or association that is responsible for the staging of an event

3.29
PA system

Public address system that uses loudspeakers and microphones that can be used to address all attendees

3.30
PA wing
Tower on the side of the stage that is used to fly sound in

3.31
Pyro technician
Person who is registered by the chief inspector as competent and suitable to produce or present a display of fireworks, theatrical indoor or stage pyrotechnic effects and pyrotechnic special effects

3.32
Pyrotechnics
Material that is capable of undergoing self-contained and self-sustained exothermic chemical reactions for the production of heat, light, sound, gas or smoke (or a combination of these)

NOTE Pyrotechnics may include fireworks, stage or theatrical effects and special effects.

3.33
Risk
Probability of harmful consequences or losses (deaths, injuries, damage to property, disrupted economic activity or environmental damages) that result from interactions between hazards and vulnerable conditions that are quantified

3.34
Risk analysis
Systematic use of information to identify risk sources, to estimate risk and to mitigate risk

3.35
Risk assessment
Overall process of risk analysis and risk evaluation

3.36
Risk evaluation
Process of comparing the estimated risk against given risk criteria to determine the significance of the risk

3.37
Safety
State of being safe, free from danger or risks and the prevention of physical harm

3.38
Service provider
Third-party entity (company/body/organization) that provides products/services related to an event

3.39
Sole board
Sole plate timber bearer of minimum size 45 mm thick by 228 mm wide by 450 mm long placed under the base jacks to spread the load

NOTE Generally sole plates are made of a hard wood such as saligna.

3.40
Stack
Sound equipment such as speakers placed one above the other on a stage, on the floor or on a platform

3.41
Stadium owner
venue owner site owner not limited to, any person now or who, in the future, will directly or indirectly own, lease, rent or who now or will in the future, acquire or exercise (or both) the powers of an owner or occupier of a stadium or venue used for sporting or recreational events

3.42
Steward
Marshal official who is appointed and directed in writing by a controlling body or event organizer for the purposes of

supervising the following spectator arrangements at an event:

a) The marshalling and overseeing of the safe general flow of spectators;

b) The provision of event information, including safety and security information, to spectators;

c) The provision of ushering services;

d) If circumstances dictate, the assistance with emergency evacuation procedures in respect of all persons within a stadium or venue and its precinct, but whose function specifically excludes the provision of a security service unless such an official is registered as a security officer.

3.43
Temporary structure
structure usually found at events that includes but is not limited to a stage, set, barrier, fencing, tent and marquee, seating, lighting and special effect tower, platform and mast, video screen, TV platform and crane jib, dance platform, loudspeaker stack, signage and advertising hoarding that is erected for an event and does not form part of the permanent structure of a venue

3.44
To fly sound in
To suspend sound equipment from a roof structure or scaffolding to ensure effective sound distribution

3.45
Venue
any area or place where an event is to be hosted, which may consist of seating for spectators, attendees or an audience and a field of play or a permanent or temporary podium or other recreational area, which has a safe seated or standing spectator (or both), audience or event attendee capacity of at least 2 000 persons at any one time, as certified by a local authority

3.46
Venue operations centre VOC
Temporary or permanent facility located inside a venue that houses an on-site operational control centre from where the entire health and safety operation is coordinated and where the various services in attendance will be represented.

NOTE The service providers include, but are not limited to, the national police services, venue security management, venue management, the event organizer or representatives, emergence services (fire and medical) and other relevant municipal services and life guards.

4 Fire safety

4.1 Venue capacity and emergency evacuation

The event organizer shall assess the existing emergency exits and make the necessary modifications so that they comply with **8.2.**

In the case of standing areas at longer events there is a need to take into account "sitting-down “space for the attendees and freedom of movement for access to toilets and refreshment facilities. It is essential to agree on the occupant capacity with the local authority and fire authority as early as possible, as the emergency exits arrangements are dependent on this figure.

In areas where seating is provided, the major part of the occupant capacity will be determined by the number of seats available. However, in other cases, a calculation will need to be made that is based on each person occupying an area of 0,5 m^2. The maximum number of people who can be accommodated can therefore be calculated by dividing the total area available to the attendees by 0,5 m^2. The local or fire authority can, however, decide to reduce the occupant capacity for certain events.

EXAMPLE An outdoor site measuring 100 m × 50 m with all areas available to the attendees can accommodate a maximum of 10 000 people (i.e. 100 m × 50 m = 5 000 m^2 divided by 0,5 = 10 000 people).
Setting a number in this way helps to identify the number of other facilities and service providers that might be needed, for example, the number of medical, stewards and ushers.

4.2 General principles of emergency evacuation

People shall be able to walk, by their own unaided efforts regardless of where a fire might breakout, to safety through clearly signposted exits that operate efficiently along a clearly recognizable route. Arrangements shall be made for or assistance shall be provided to people with disabilities.

When evacuation is necessary, people often try to leave the way they entered. If this is not possible (perhaps because of the location of the fire or smoke), they need to be able to turn away from the fire and find an alternative route to a place of safety. However, the attendees might underestimate the risk or be reluctant to use exits they are unfamiliar with. Stewards shall be trained to guide the attendees and to ensure that they leave promptly. Wheelchair aisles should be taken into account.

Entrances and exits for pedestrian access should be separated from entry routes used by service and concession vehicles.

4.3 Buildings designed for indoor public assembly

Buildings designed for public assembly shall have suitable and sufficient emergency exits for their designed purpose. However, adaptations, such as the provision of a stage, temporary stands, or a significant increase in the number of people to be accommodated, shall be taken into consideration and might require additional safety measures.

Where additions to the existing emergency exits are needed, the event organizer shall ensure that

a) Exits are suitable and sufficient in size and number,

b) Exits are distributed so that people can turn their backs on any fire which might occur,

c) Exits and exit routes are clearly indicated,

d) Escape routes are adequately lit, and

e) Provision shall be made for people with disabilities.

Usually, the scale of provision required regarding the normal use of the building will be adequate. However, if additional facilities are to be provided, for example, a stage, concessions on a pitch, or changing rooms, the event organizer shall ensure provision of adequate additional equipment.

4.4 Buildings not designed for indoor public assembly

Additional emergency exits might be required to accommodate an event where buildings were not designed for indoor public assembly.

The event organizer shall consult the fire and local authority at an early stage before making provision for additional exits.

In deciding whether the emergency exits are reasonable, the event organizer shall take into consideration

a) The occupant capacity of the building,

b) The width and number of exits required,

c) Whether temporary stands and stages will be constructed within the building,

d) Exit and directional signs, and

e) The normal and emergency lighting with which the building is provided.

The event organizer shall ensure that no steward needs to travel more than 30 m from the location of a fire to reach a fire extinguisher. Fire extinguishers shall be positioned along exit routes near exits.

4.5 Sports stadiums

The event organizer shall provide a sports stadium with adequate emergency exits from the normal spectator areas. However, additional exits might be needed if the pitch area is to be occupied by the attendees and by temporary structures, such as a stage or stands. If the pitch area has a perimeter fence, provision shall be made for a 1,8 m opening at intervals of not more than 25 m.

If a sports stadium is to be used, the event organizer shall ensure that there are adequate emergency exits from all areas and shall consult the fire and local authorities regarding these exits at an early stage.

4.6 Outdoor venues

4.6.1 Exits

To provide emergency exits that will allow for an orderly evacuation to take place, the event organizer shall ensure that

a) The number and size of exits in the fences etc are sufficient for the number of people present,

b) Exits are distributed around the perimeter,

c) Exits and gateways are unlocked and staffed by stewards throughout the event, and

d) All exits and gateways are clearly indicated by suitable signs that are illuminated if necessary.

The event organizer shall consult the fire authority and local authority at the planning stage about the proposals for emergency exits.

NOTE Outdoor venues such as parks and fields will normally have boundary fences at their perimeters.

4.6.2 Marquees or tented structures

4.6.2.1 General

No dangerous or combustible or toxic gases or other allied product such as aerosols, explosives or pyrotechnics shall be stored within a tented structure.

Persons other than the contractor's staff or those under his/her supervision shall not be admitted to a tented structure until it is deemed structurally complete and safe.

The area underneath stages, platforms etc. shall not be used for storage.

Rubbish shall not be allowed to accumulate underneath stages etc. Such areas should be inspected daily to ensure conformity.

Exit routes should be kept free from obstruction at all times.

When any person is in a tented structure, the exit doors should not be locked.

Continual reference should be made to weather forecasting services, particularly with regard to tents erected during the summer months or those erected on exposed sites (or both). Contingency plans should be in place to evacuate tents when wind speeds approaching the maximum service gust speed are forecast.

4.6.2.2 Internal layout

The organizer shall prepare and submit an internal layout of a tented structure clearly indicating seating, aisles, escape routes and fire exits.

An internal layout shall include the following:

a. minimum of 0,5 m shall be provided between rows of seats;
b. all seats shall be securely attached in blocks of not less than four seats;
c. rows of seats shall not exceed 15 seats;
d. blocks of seats shall not exceed 12 rows;
e. the travel distance from any seat to not less than two exits shall not exceed 45 m;
f. no exit shall be less than 1,8 m wide;
g. all aisles connecting two or more blocks to an exit shall not be less than 1,8 m wide;
h. aisles to individual blocks shall not be less than 1,1 m wide;

i. all aisles shall be kept free of tripping hazards and obstructions;
j. all cables shall be adequately secured and covered to prevent tripping; and
k. All exits shall provide an unobstructed route to an open area not less than 30 m from the tent.

4.6.2.3 Flame retardancy properties of tent material

4.6.2.3.1 Flame retardancy properties of all tent material shall be specified and shall include
a. tent material ignition time,
b. continuous flaming after removal of the test flame, and
c. Continuous flaming of the drip residue.
d. Flame retardancy tests shall be conducted on both sides of the material.

4.6.2.3.2 Tent material shall comply with the following minimum requirements:

a. Material ignition time : 3min

b. Continuous flaming time (air removal of flame) : 2 s
c. Continuous flaming time of drip residue
d. The manufacturer shall include the maximum usage period for tent material before the re-treatment with a flame retardant chemical is required: 2s

4.6.2.4 Fire extinguishing equipment in tented structures

A minimum of one 9 kg fire extinguisher (or two 4, 5 kg fire extinguishers) shall be provided per 100 m² or part thereof of tent space. A minimum of four fire extinguishers shall be provided.

Where food is prepared or warmed inside a tented structure, an additional 4,5 kg fire extinguisher shall be provided at each point. In cases where the entire tent can be serviced by a hose reel, one 9 kg fire extinguisher (or two 4,5 kg fire extinguishers) shall be provided for every 200 m² or part thereof of tent space.

4.6.2.5 Exits

Exits shall be sufficient for the number of occupants in relation to their width, number and sitting. No exit shall be less than 1, 1 m wide.

Although the general principle is that no person should have to travel more than 18 m to reach an exit, this is not inflexible as a number of factors might influence the situation. For example, a high risk of fire spread might require a shorter travel distance whilst an effective fire safety policy, sufficient trained stewards and suitable signposting of exit routes might permit longer travel distances.

4.6.2.6 Ramps and stairways

Where a temporary ramp or temporary stairway forms part of an emergency exit, an additional 0, 25 m shall be added to the calculation of travel distance for every 1 m of the ramp or stairway. Thus if the actual distance to a final exit is 18 m, of which 10 m is a temporary stairway, the distance of travel would be regarded as 20,5 m.

4.6.2.7 Vegetation

The event organizer shall ensure that all vegetation is cleared to a distance of at least 4, 5 m around the site before the temporary structure is erected.

4.6.2.8 Electrical installations

The electrical installations in a tented structure shall be certified safe by a registered electrician.

4.7 Stairways

Any stairway, lobby, corridor or passageway, which forms part of the emergency exits from the venue, shall be of a uniform width and constructed and arranged so as to provide a safe escape for the people using it. Therefore, spiral staircases shall not be used as fire escapes.

In general, stairways shall be not less than 1,1 m wide. The aggregate capacity of stairways shall be sufficient for the number of people likely to have to use the stairways at the time of a fire or other emergency. In this connection it will be necessary to consider the possibility of one stairway being inaccessible because of fire. The aggregate width shall allow for this possible reduction.

Stairways wider than about 2,1 m shall normally be divided into sections, each section separated from the adjacent section by a handrail, so that each section measured between the handrails is not normally less than 1,05 m wide.

4.8 Ramps

Where ramps are used the

a) gradient shall be constant and not broken by steps,

b) Maximum gradient for a ramp that is subject to heavy crowd flow shall not exceed 1 in 12,

c) Ramp shall have a non-slip surface and, as appropriate, a guard rail and a handrail, and

d) Ramps installed for wheelchair users shall comply with relevant standards

4.9 Exits

The event organizer shall ensure that every venue is provided with exits that are sufficient for the number of people present in relation to their width, number and sitting. Normally no exit shall be less than 1,1 m wide.

4.10 Doors and escape routes

As a general principle, if a building is used for public assembly, a door used for emergency exits shall open in the direction of travel.

Doors shall

a) Not open across an escape route,

b) Be hung to open through not less than 90° and with a swing, which is clear of any change of floor level,

c) Be provided with a vision panel if it is hung to swing both ways, and

d) If protecting an escape route, be fire resisting, fitted with smoke seals and be self-closing.

A door which, for structural reasons, is hung to open outwards shall be securely locked in the fully open position at all times when the building or venue is occupied. The key shall be removed and kept at a safe place and the door shall be clearly indicated with a sign bearing the words “TO BE SECURED OPEN WHEN THE PREMISES ARE OCCUPIED”. The notice shall be provided on each side of the door in a position where it can be clearly seen whether the door is in the open or closed position.

4.11 Fastenings on doors and gates

The event organizer shall check doors and gates that are final exits and all doors leading to such exits before the event starts to ensure that they are unlocked, or in circumstances where security devices are provided, and shall ensure that they can be easily and immediately opened from within, without the use of a key, by someone escaping. Security fastenings such as padlocks and chains shall not, under any circumstances, be used when the venue is occupied; they shall be placed on numbered hooks in a position that is not accessible to unauthorized people at all times when the building is occupied. All fastenings shall be numbered to match the numbered hooks.

Where doors have to be kept fastened while people are present, they shall be fastened only by pressure-release devices such as panic bolts, panic latches or pressure pads, which ensure that the door can be readily opened by pressure applied by people from within. Panic bolts, panic latches and pads shall comply with the relevant national standards.

4.12 Self-closing devices for fire doors

4.12.1 Escape routes shall be protected by fire-resisting construction and fire doors. All such doors, except those to cupboards and service ducts, shall be fitted with effective self-closing devices to ensure positive closure.

Rising butt hinges are not normally acceptable.

4.12.2 Fire doors to cupboards, service ducts and any vertical shafts linking floors shall be either self-closing or kept locked shut when not in use. Self-closing doors shall be indicated by notices bearing the words “FIRE DOOR KEEP SHUT”. Doors to be kept locked shall be indicated by notices bearing the words “FIRE DOOR KEEP LOCKED”.

All fire doors shall be checked regularly to ensure that

a) They are undamaged,

b) They swing freely,

c) They are closely fitted to frame and floor, and

d) The self-closing devices operate effectively and close in sequence.

4.13 Exit and directional signs

4.13.1 In an emergency, it is essential that all available exits are used. Clearly indicate all available exit routes so that attendees and workers are aware of all the routes to leave the venue in an emergency. In addition, the provision of exit route signs that are clearly visible to everyone present will prevent panic in an emergency.

4.13.2 All fire safety signs, notices and graphic symbols shall comply with national regulations.

4.13.3 Exit signs shall take the form of a pictogram symbol and should be supplemented by text bearing the words "EXIT" or "FIRE EXIT" in conspicuous lettering. Any exit on an escape route shall be clearly indicated by suitable exit signs positioned, wherever possible, immediately above the door or opening.

4.13.4 Where an exit cannot be seen or where people escaping might be in doubt as to the location of an exit, directional exit signs shall be provided at suitable points along the escape route. Such signs shall be sufficiently large, fixed in conspicuous positions, and wherever possible be positioned between 2 m and 2,5 m above ground level.

4.13.5 Exit signs and signs incorporating supplementary directional arrows shall be lit whenever people are present. Signs at outdoor events shall be weatherproof and clearly visible above people and also lit at night, if necessary.

4.14 Normal and emergency lighting

If used at night time, or in the absence of natural daylight, all parts of the venue to which the attendees have access and all escape routes shall be provided with adequate lighting and emergency lighting.

4.15 Fire-fighting equipment

4.15.1 General

All venues shall be provided with appropriate portable or hand-held fire-fighting equipment and this provision shall be determined at the planning stage in consultation with the local authority and the fire authority.

NOTE Some venues designed for public assembly might have a fire suppression system, for example, a sprinkler system, automatic sprinkler system (such as water mist), carbon dioxide, dry chemical, foam, Halon 1301, water spray, or a standard extinguishing system of another type, but generally portable or hand- held fire-fighting equipment, i.e. extinguishers, hose reels and fire blankets, will be sufficient.

The event organizer shall ensure that portable fire extinguishers installed and maintained comply with the requirements of this standard and other relevant standards.

4.15.2 Fire-fighting equipment for outdoor venues

The provision of fire-fighting equipment for outdoor venues will vary according to the local conditions. There will need to be equipment for tackling fires in vegetation, vehicles and marquees. Well-indicated fire points shall be provided as follows:

a) Where water hydrants are provided on-site and there is a water supply of sufficient pressure and flow to project a jet of water approximately 5 m from the nozzle, fire points consisting of standpipe together with a reel of small diameter hose of not less than 30 m in length shall be provided. The hose shall have a means of connection to the water standpipe (preferably a screw thread).
The hose shall end in a small hand-control nozzle. The hose shall be kept in a box painted red and marked "HOSE REEL".

b) Where standpipes are not provided or the water pressure or flow is not sufficient, each fire point shall be provided with either a water tank of at least 25 L in capacity fitted with a hinged cover, two buckets and one hand pump or bucket pump; or a suitable number of water-type fire extinguishers (not less than two extinguishers).

c) Arrangements might need to be made to protect fire-fighting equipment located outdoors from the effects of weather, vandalism and theft. Fire points shall have prominent signs.

d) Further advice on fire-fighting equipment for outdoor venues shall be sought from the fire authority or local authority.

4.15.3 Hose reels

If hose reels are installed they shall be located where they are conspicuous and always accessible.

4.15.4 Fire involving electrical equipment

Extinguishers provided specifically for the protection of electrical risks shall be of the dry powder or carbon dioxide type. Alcohol-resistant fire-fighting foam (AFFF) systems shall not be used at events.

WARNING: Use of water-type fire extinguishers where there is any electrical supply is dangerous.

4.16 Fire retardancy of curtains, drapes and other materials

4.16.1 All curtains and drapes shall be of durable and inherently flame retardant fabric or treated with a flame-retardant product. Other decorative elements such as chair covers, tablecloths, floor coverings and centerpieces shall be considered part of the risk assessment.

4.16.2 Event organizers should know that the use of curtains, drapes and temporary decoration scan affects the safe use of the emergency exits. The local authority shall be notified in writing of any proposal to use combustible decorative materials. This notification shall be accompanied by full details and shall include samples of the proposed material.

4.16.3 Curtains across exit doors present an additional problem and shall be arranged so as not to trail on the floor. They shall open from the centre and shall only be permitted where stewards are present nearby to open curtains in the event of an emergency.

4.17 Artificial and dried foliage

4.17.1 All artificial and dried foliage used for decorative purposes in public areas shall be flame retardant. As the flame retardant treatment can be adversely affected by contact with moisture, periodic re-treatment might be necessary. Re-treatment might also be necessary to maintain the appearance of foliage.

4.17.2 As it is difficult to totally inhibit the production of flaming molten droplets or debris from the solid plastic parts of artificial foliage such as branches and stems, the local authority might limit the amount of material used and prohibit use in some locations.

4.17.3 Dried flowers and grasses shall not be sprayed with hair lacquer or similar substances, as such treatment will make them ignite easily and burn more quickly.

4.18 Special risks

Portable fire-fighting equipment for special risks shall be provided in accordance with table 1.

Table 1 — Portable firefighting equipment

1	2
Location	**Recommended equipment**
Stage exceeding 56 m^2	Hydraulic hose reels or two approved extinguishers, on each side of the stage, and one light-duty fire blanket
Stage not exceeding 56 m^2	One approved extinguisher, on each side of the stage, and one light-duty fire blanket
Dressing rooms	In every block of four dressing rooms a minimum of one approved extinguisher and one light-duty fire blanket
Scenery store, stage basement, property store and band room	Approved extinguisher in each risk area or an appropriate extinguisher where the use of water is unsuitable for the fire risk presented
Electrical intake rooms, battery rooms ,stage switchboards and electrical equipment	Carbon dioxide extinguisher or one dry-powder extinguisher
Boiler rooms – solid fuel fired	Approved extinguisher
Boiler rooms – oil fired	One dry-powder or foam extinguisher
Portable generators (power supply)	Carbon dioxide extinguisher or one dry-powder extinguisher

4.19 Warning systems

In the case of indoor events, fire-warning systems shall comply with the requirements of relevant standards. A fire-warning sign or signal that needs a power supply to operate shall also have a backup power supply. Existing systems designed or installed in accordance with an earlier standard might be acceptable subject to satisfactory testing, electrical certification and approval by the local authority.

The purpose of a fire-warning system is to provide information to stewards and everyone present so that all can be safely evacuated before escape routes become impassable through fire, heat or smoke. The warning systems shall be suitable for the particular venue, taking into account its size and layout and the number of people likely to be present. (See table 1.)

5 Planning and Management

5.1 Health and safety policy

5.1.1 A safety policy is a document that demonstrates to others that the company or organization to which it relates accepts that concern for health and safety is an integral part of its organization at all levels and that the highest management within the company mean to ensure that this concern will be translated into effective action. In other words, it is ways of letting others know your commitment to health and safety. This information is conveyed in the policy statement.

5.1.2 Safety policies should also contain details of the *organization,* which show how the policy will be put into practice. This part will describe the roles and responsibilities of other people that have been given safety duties (not ultimate responsibility as this cannot be delegated). The organization section of the safety policy should contain other matters, e.g. a diagram showing the delegation of safety duties, the nomination of people with the authority and competence to monitor safety and the resources (in time and money) that are available for health and safety.

5.1.3 The *arrangements* cover the detailed matters, e.g. the maintenance of a safe place of work, safe systems of work, safe access, and provision of information, training and consultation with employees. It is a legal requirement for employers employing five or more people to produce a written health and safety policy
.
5.1.4 The event organizer may be a person or organization that promotes and manages an event themselves, e.g. promoters, production companies or local authorities. If you fall into this category, it is likely that you will have more than eight employees and are legally required to produce a safety policy for the event. If you have been hired to promote and manage an event on behalf of another company or organization, e.g. a client, you may not actually be an employer or have any employees.

However, it will still be necessary to establish who has the overall responsibility for complying with the Occupational Health and Safety at Work etc Act 2007 (OSHA Act) and to ensure that the responsibilities are recorded.

5.1.5 Some music events may be organized by people or organizations where there is no actual employer, e.g. community events, so there will be no legal requirement to produce a safety policy.
However, there is still the legal responsibility for the management of contractors and subcontractors on site. Producing a safety policy in these circumstances is recommended as it provides a framework around which you can manage health and safety at the event.
5.1.6 The health and safety policy could relate to a series of events if these are to be organized by the same event organizer. An event health and safety policy prepared for a series of events will need to be reviewed in terms of the *organization* and *arrangements* for health and safety for each particular event.

5.1.7 It is important that the safety policy details a management structure which defines the hierarchy of health and safety responsibility for the duration of the event and that these details are recorded in the safety policy document. (The duration of the event starts at the beginning of the build-up through to the finish of the breakdown.)

5.1.8 If an event is to be staged in existing premises such as an arena or a sports stadium, the event organizer will need to liaise with the venue or ground management in relation to the existing arrangements for health and safety.

5.2 Planning for safety

Effective planning is concerned with prevention through identifying, eliminating and controlling hazards and risks. The amount of time that needs to be set aside for planning will be very much depending on the size, type and duration of the music event. For large events, experience shows that 6-9 months beforehand is not too early to start.
It is necessary to have an appreciation of the information contained in all chapters to be able to plan effectively.

5.3 The phases of an event

The planning issues for an event can be considered in separate parts:

5.3.1 the 'build-up', which involves planning the venue design, selection of competent workers, selection of contractors and subcontractors, construction of the stages, marquees, fencing, etc;

5.3.2 the 'load in', which involves planning for the safe delivery and installation of equipment and services which will be used at the event, e.g. stage equipment used by the performers, lighting, public address (PA) systems, etc;

5.3.3 The 'show', which involves planning effective crowd management strategies, transport management strategies and welfare arrangements. Planning strategies for dealing with fire, first aid, contingencies and major incidents are important;

5.3.4 The 'load out', requires planning for the safe removal of equipment and services; the 'breakdown', which includes planning to control risks once the event is over and the infrastructure being dismantled. Collection of rubbish and waste-water disposal present risks and these aspects need to be planned and managed.

5.4 Planning for the build-up

5.4.1 To minimize risks during the build-up, ensure that the venue is designed for safety (see chapter on Venue and site design). It is also necessary to ensure that any infrastructure which will be used at the event, such as stages, seating, tents, marquees or other structures will be erected safely and be structurally safe once erected and used (see chapter on *Structures*).

5.4.2 Prepare plans to show the location of the stages, barriers, front-of-house towers, delay towers, entries and exit points, emergency routes, first-aid and triage areas, positioning of toilets, merchandising stalls, etc. It may be necessary to obtain plans of existing premises from the owner, occupier or venue manager in which your event is to be held Copies of these plans may need to be given to the contractors building the infrastructure to ensure correct positioning of the various structures to be used at the event.

5.4.3 Ask contractors and subcontractors to provide copies of their own health and safety policies, and details of any hazards and risks associated with their work, before the build-up commences.

5.4.4 Documents and calculations will also need to be obtained in relation to the stages, seating or other temporary demountable structures. These plans, documents, and calculations will be needed when discussing your event with health and safety inspectors, local authority licensing officers and officers of the emergency services.

5.4.5 Plan the arrival of the contractors and ensure that their activities on site are coordinated with others. Also plan the provision of first aid and welfare facilities for the people who will be working on site, and ensure that they are suitable, in sufficient numbers and available from the time that work begins.

5.4.6 It is good practice to draw up a set of site safety rules and communicate these rules to the contractors before or as soon as they arrive on site. They can be posted in the form of signs in site offices and other areas. Contractors will then be aware of safe working practices required of them at the particular site or venue.

5.5 Planning for the load-in

Once the infrastructure has been built all other equipment and services will need to be brought to the site and installed in or on the structures, e.g. the loading of the performers' equipment onto the stage (which is likely to involve manual handling procedures) and the delivery of equipment to be used in the bar areas. These operations will also need careful planning.

5.6 Planning for the show

5.6.1 Planning for the show requires preparing strategies for crowd management, transport management, fire, first aid, major incident and contingency planning. Successful planning for the show requires a team approach. It cannot be achieved by one individual operating alone but requires seeking information and advice from the emergency services (such as the police, fire brigade, etc), the health authority, local authority, any existing venue managers, stewarding, and security contractors.

5.6.2 Create an event safety management team to co-ordinate the planning aspects of the show itself. The event safety management team could include members of the local authority and emergency services. It may also be advisable to set up a series of safety planning meetings so that information can be exchanged between the parties and to ensure that the relevant agencies are aware of the planning process. Table-top emergency planning exercises to test the validity of the emergency plans for the larger and more complex events may also be useful.

5.7 The event safety management plan and event safety team meetings

5.7.1 To provide a comprehensive overview to all these planning aspects it may be helpful to produce an event safety management plan.
The constituents of an event safety management plan could include the following: the event safety policy statement detailing the organization chart and levels of safety responsibility; the event risk assessment ; details of the event including venue design, structures, audience profile and capacity, duration, food, toilets, refuse, water, fire precautions, first aid, special effects, access and exits, music levels, etc; the site safety plan detailing the site safety rules, site crew managers and safety coordinator, structural safety calculations and drawings; the crowd management plan detailing the numbers and types of stewards, methods of working, chains of command; the transport management plan detailing the parking arrangements, traffic management issues and public transport arrangements; the emergency plan detailing action to be taken by designated people in the event of a major incident or contingency; the first-aid plan detailing procedures for administering first aid on site and arrangements with local hospitals.

5.7.2 The Event owner must ensure that there is full document control so that redundant or superseded documents are not mistaken for the final version.

5.7.3 Event safety planning meetings should be held to ensure that the event safety management team members are updated on the content of the plan, as well as providing a mechanism for ensuring a flow of safety information on a regular basis. These meetings can be arranged in the weeks or days leading up to the event. If the event is to take place over a few days, e.g. festivals, meetings should take place at least once each day of the event.

5.8 The event risk assessment

The OSHA act requires all employers and self-employed people to assess the risks to workers and others who may be affected by their work.

5.8.1 The purpose of a risk assessment is to identify hazards which could cause harm, assess the risks which may arise from those hazards and decide on suitable measures to eliminate, or control, the risks. Significant findings of the risk assessment must be recorded if eight or more people are employed. A risk assessment for the build-up, show and breakdown, can only be carried out once information has been received from the

contractors, other companies and self-employed people who will be working on site. It will also be necessary to visit the site or venue to identify specific hazards.

Hazards associated with the assembly of large numbers of people may vary according to the nature of the event and these hazards should be similarly assessed in terms of risk. The previous history of the performers and the audience that they attract can provide valuable information. The overall event risk assessment will then indicate areas where risks need to be reduced to acceptable levels.

There are five steps which need to be taken to assess the risk associated with staging the event.

- Identify the hazards associated with activities contributing to the event, where the activities are carried out and how the activities are to be undertaken
- Identify those people who may be harmed and how Identify existing precautions, e.g. venue design, operational procedures or existing 'safe systems of work'
- Evaluate the risks
- Decide what further actions may be required, e.g. improvement in venue design, safe systems of work, etc
- The risk assessment findings will need to be recorded and a system developed to ensure that the risk assessment is reviewed and, if necessary, revised.

5.9 Planning for the load out

Although the music event has ended, this does not mean that the responsibilities towards health and safety are over. Ensure that you have considered how the equipment and services will be removed from the stages, tents and marquees at the end of the event.

5.10 Planning for the breakdown

The stages, marquees and stalls have to be dismantled safely and in a controlled manner and removed from site. Plan to ensure the same site safety rules apply in relation to managing contractors during this phase of the event.

5.11 Organizing for safety

Once the health and safety policy statement has been prepared and the levels of responsibility have been agreed and you have prepared your safety plans, it is necessary to organize for safety especially when work is to begin on site. Effective organizing contains these four elements:

- Competence
- Control
- Co-operation
- Communication.

5.12 Competence

Competence is about ensuring that all employees, self-employed people, contractors and subcontractors working on your site have the necessary training, experience, expertise and other qualities to carry out the work safely. Competence is also about ensuring the right level of expertise is available, particularly in relation to specialist advice.

Ensure that the contractors or subcontractors you intend to hire, to build the infrastructure or provide other services, are competent in the management of their own health and safety when working on site. Simple checks of the contractors' and subcontractors' health and safety policies can be carried out and applicable safety method statements and risk assessments obtained and examined in relation to their proposed work.

5.13 Control

Establishing and maintaining control is central to all management functions. Control starts with the production of a health and safety organizational structure, which details specific health and safety responsibilities and shows clear reporting mechanisms. Control also ensures that the contractors and self-employed people understand their responsibilities and that they know what they must do and how they will be held accountable for safety on

site. It is important to make sure that contractors understand how health and safety will be controlled and monitored before they begin work on site.

5.14 Co-operation

5.14.1 Effective co-operation relies on the involvement of employees, contractors, and others, in your planning, standard setting, operating procedures and instructions for risk control as well as involvement in monitoring and auditing. Co-operation enables the risks to be suitably controlled by allowing the exchange of information.

5.14.2 Contractors, subcontractors and self-employed people need to appreciate the hazards and risk to others working on site and to co-operate with each other to minimize identified risks.

5.14.3 Effective co-operation can be achieved by working to prepared site safety rules and safety plans.

5.15 Communication

Effective communication ensures that all those who are to work on site understand the importance and significance of the health and safety objectives. Make sure that you keep contractors, subcontractors, and others informed of safety matters and procedures to be followed on site.

5.16 Monitoring safety performance

5.16.1 Monitoring is essential to maintain and improve health and safety performance. There are two ways of generating information on safety performance: active monitoring systems; and reactive monitoring systems.

5.16.2 Active monitoring systems give feedback on safety performance before an accident or incident happens Active monitoring can be achieved by carrying out inspections of the contractors on site during the build-up and breakdown and by checking the contractors' safety method statements for carrying out work against their actual work on site.

5.16.3 Reactive monitoring systems are triggered after an accident or incident has occurred. They include identifying and reporting injuries, ill health, and other losses such as damage to property, incidents with the potential to cause injury, and weaknesses or omissions in safety standards.

5.16.4 Information obtained during inspections as well as a result of incidents or property damage can be recorded in an event logbook. This book can be used to keep other records and the information used to audit and reviews the event at a later date.

5.17 The role of the safety coordinator

The event organizer shall have access to competent help in applying the provisions of the relevant national occupational health and safety legislation unless he/she is competent to devise and apply protective measures him/her self.

5.17.1 The event organizer shall appoint a competent safety coordinator to assist in compliance with the relevant national occupational health and safety regulations. The event organizer shall ensure that the safety coordinator reports directly to him/her.

Safety coordinators can assist in the following duties:
a) Selection and monitoring of contractors;
b) Liaison with contractors, self-employed people on-site and the local health and safety authorities and their inspectors;
c) checking of safety method statements and risk assessments;
d) Preparation and monitoring of site safety rules;
e) Checking of appropriate certificates in respect of structures, electrical supplies, etc.;
f) Communication of safety information to contractors on-site;
g) Monitoring and coordinating safety performances; and
h) Coordinating safety in response to a major incident.

5.17.2 The safety coordinator shall have access to the safety documentation supplied by the contractors. The safety coordinator shall be available to workers at the beginning of the build-up of the event through to the final breakdown. The safety coordinator shall be a member of the event organizer's event safety management team.

5.18 Auditing and reviewing safety performances

The event organizer shall carry out auditing at the completion of every event so that any problems identified in planning, organizing or any matters that arise during the event can be analyzed and corrected for any future events. The safety performances of the police, fire brigade, health authorities, emergency medical services and local authority as well as of the safety coordinator, contractors and stewarding company should be documented.

The event organizer shall ensure that any safety documentation is easily available for examination by health and safety inspectors. Information shall be kept in a safety file as this would make this process easier and ensure that information is not misplaced.

It is the duty of the event organizer to comply with local by-laws

6 Structures

6.1 Temporary structures

6.1.1 General

Many events require the provision of temporary demountable structures, for example, grandstands, stages and marquees. Managing the hazards connected with these structures is just as important as managing other hazards. This can only be achieved if all those responsible for these structures undertake their duties conscientiously. A separate risk assessment is required for temporary structures.

6.1.2 Design and erection

The failure of any temporary demountable structure, no matter how small, in a crowded, confined space can have devastating effects. It is therefore essential to design and erect structures to suit the specific intended purpose, and to recognize that the key to the safety of these structures is largely in the

a) Choice of appropriate design and materials,

b) Correct sitting or positioning, especially access areas,

c) Proper planning and control of work practices, and

d) Careful inspection and certification of the finished product.

6.1.3 Kinds of structure

The kinds of structure usually found at events include stages, sets, barriers, fencing, tents, marquees, seating, lighting and special effect towers, platforms and masts, video screens, TV platforms and crane jibs, dance platforms, loudspeaker stacks, and signage and advertising hoardings. Temporary demountable structures erected outdoors shall comply with all the requirements of indoor structures and shall take additional factors created by the effects of the weather into consideration.

6.1.4 Marquees and tented structures

Note: - These guidelines cover all marquees/tents and all textile-covered frame structures, whether of steel or aluminium, which are intended for public assembly, place of work or the like. Camping tents are excluded.

6.1.4.1 Documentation

The purchase of marquees/tents by the marquee-hiring contractors shall be accompanied by documentation pertaining to all design criteria from the manufacturer.

6.1.4.2 Manufacturers' specifications

No tent shall be sold or hired without the manufacturers' specifications as set out in this standard. In the case of existing tents, the owner shall obtain the specifications from the manufacturer within six months of the implementation of this standard. Specifications shall include the requirements given in **6.1.4.4 to 6.1.4.11.**

One copy of the manufacturer's specifications and the original certificate to occupy/engineer's certificate shall be available on site at all times for the duration of the event.

Two additional copies of the specifications and certificate to occupy/engineer's certificate shall be given to the local authority.

6.1.4.3 Wind load

The design wind load shall be as specified by the local building authorities. In calculating the wind load the shape and surface area shall be considered.

6.1.4.4 Structural specifications

The location, spacing and dimensions of all structural components, including bracing and load bearing components, and sound and lighting tracks or beams, shall be specified by the manufacturer.

Any alterations to or deviations from the manufacturer's specifications shall be designed and certified by a registered engineer.

6.1.4.5 Pressure-reduction vents

The manufacturer shall specify any vents or other mechanisms designed to reduce pressure or lift (or both).

6.1.4.6 Securing material

The securing material shall be affixed in a manner that will not allow it to slip.

The manufacturer shall specify the material and dimensions or SWL (or both) of all materials such as rope, cables and cargo strapping used for securing the tent.

The tension applied to the tent by the securing material shall be adequate to prevent excessive movement of the tent in a wind equal to the design wind.

The point of securing shall not be more than 10 % of the peg length or 300 mm (whichever is the lesser distance) above the ground.

Pegs shall comply with the following:

a) The type, length, diameter, fixing method and also the angle and depth of pegs into the ground shall be specified by the manufacturer.

b) Pegs shall be evenly spaced unless otherwise specified by the manufacturer.

c) In the case of framed structures, the manufacturer shall specify the minimum number of pegs permissible for each base plate.

d) In the case of smooth pegs, a hook, eye or broad flat washer shall be fixed to the peg to prevent slipping.

e) The pegs shall be covered with a suitable soft material to reduce the risk of injury.

6.1.4.7 Safety barriers

A physical demarcation of rope, barrier tape or other suitable material shall be placed on the outside of the pegs and securing material to avoid the risk of tripping.

This barrier shall be of a height not less than 500 mm and not more than 900 mm.

6.1.4.8 Tent material

The manufacturer shall specify the tent material supplied to include roof covers, soft wall covers, solid cassette wall panels and solid doors.

The material mass (expressed in grams per square meter), thickness, tensile and tear shall be indicated.

6.1.4.9 Quality control

The marquee-hiring contractor shall observe a good standard of workmanship and that the marquees/tents are of appropriate quality.

6.1.4.10 Inspection and testing of components

A visual inspection for wear and damage shall be conducted on all components before the assembly and erection of the tent. Worn or damaged components shall immediately be repaired or replaced.

Regular annual checks (as a minimum or as recommended by the manufacturer) and inspections of
all marquee/tent components shall be conducted and recorded by the owners of marquees/tents.

The following checklist could be used as a guideline:
a) Ropes checked for fraying and discarded if necessary;

b) Roof and side covers checked for tears and repaired or replaced in accordance with the manufacturer' specifications;

c) Repairs to load bearing structural members effected in accordance with the manufacturer's specifications or certified by a qualified engineer;

d) Roof rafters and purlins checked to ensure that they are straight;

e) Brackets checked to ensure they are sound and secure;

f) Riveted connections checked for soundness;

g) Galvanized steel checked for corrosion;

h) Welds checked for cracks;

i) Extruded sections checked for kinking or bowing; and

j) Safety wires/cross bracing checked for soundness and secure fixing.

6.1.4.11 Site inspection and report

Before the installation of the marquees/tents, a thorough site inspection shall be conducted. A report

addressing the following shall be submitted to the event organizer:

a) Access and egress for members of the public (including persons with disabilities), emergency

vehicles and equipment;

b) The proximity of surrounding buildings, vegetation and other fire risks in relation to the spread of fire;

c) The availability of mains services; and

d) The slope or unevenness of the ground.

6.1.4.12 Soil condition

The area on which the tent is erected shall have soil of adequate consistency and density to prevent failure of the securing of the tent.

Sandy, wet and soft soil should be avoided. Where tents are erected on hardened surfaces such as roads and car parks, the approval of the owner shall be obtained. The area shall be fully reinstated after the removal of the pegs.

6.1.4.13 Soil density testing

In the case of a tent larger than 500 m^2, or, if required by the local authority a competent person shall certify that the site is suitable for the erection of the tent.

6.1.4.14 Underground/overhead cabling

If underground services or overhead cables cross sites where marquees/tents are to be erected, the appropriate advice and permission shall be obtained from the owner or local authority.

6.1.4.15 securing in areas where pegs are not permitted

In cases where the owner declines permission to use pegs, use may be made of concrete blocks, water ballast or other means to secure the tent, provided that a registered engineer has certified that the applied securing will be able to withstand the design wind.

Where marquees are erected on a scaffold deck or the like, the marquee contractor shall ensure that the securing of the marquee/tent to the deck is in accordance with the manufacturer's specifications or as indicated by a qualified engineer. The supplier of the deck or the like shall supply relevant details, including an engineer's certificate, as to the load capacities per square meters of the deck.

6.1.4.16 Subcontracting

Where the marquee-hiring contractor subcontracts any of its work it shall ensure that its subcontractor is a competent and bona fide hiring company with all appropriate insurance cover and shall also ensure that the subcontractor complies with the relevant and necessary guidelines and recommendations as indicated above. The marquee hirer shall act with fairness and integrity in all of its dealings with its subcontractors.

6.1.4.17 Certificate to occupy

The person erecting the tent shall conduct an inspection of the structure, pegs, tension of fixing material and other issues critical to the safe occupancy of the tent (see the checklist below), and shall issue a certificate to occupy.

In the case of tents larger than 500 m^2 a person registered with the engineering council shall issue the certificate to occupy.

The following is a recommended minimum checklist for assembled structures:
a) Anchorages are suitable for the purpose and are holding fast;

b) Bracing wires on roof and walls are in place and adequately tensioned;
c) All ropes, including wire ropes, are sound;
d) Fabric is tensioned and not prone to ponding;
e) Emergency exits are in place, operating correctly and are without obstruction;
f) Escape routes are clear of obstruction;
g) Exposed ropes and stakes adjacent to exits and entrances are marked or roped off;
h) All locking pins and bolts are in place and secure;
i) All structural supports are sound;
j) Eaves connection joints are securely locked home;
k) No unrepaired tears in fabric are present;
l) Walls are securely pegged or secured (or both);
m) Any pole tent has its full complement of side uprights, anchor stakes, pulley blocks and guy ropes;
n) The main upright is independently guyed; and
o) An all-round visual check after all checks have been done to satisfy that the tented structure is erected securely.

The inspection shall be conducted not more than 2 h before occupancy or not more than 1 h in the case of winds in excess of 35 km/h (9,7 m/s).

6.1.4.18 Capacity calculations

The occupant capacity is the permissible number of people occupying a tent or part of a tent and is an important factor in assessing the means of escape.
In areas where fixed seating is provided, the major part of occupant capacity will be determined by the number of seats available. In other cases, however, the contractor should ensure that an assessment is made of the probable density of people within the occupant capacity.
The guidelines for capacity calculations are as follows:

a) Standing room - Cocktail function	: 0,5 m² per person
b) Cinema style seating (Conference)	: 1,0 m² per person
c) School room seating (Conference)	: 1,3 m² per person
d) Banquet seating (1,8 m round tables)	: 1,75 m² per person

6.1.4.19 Crew safety and standby

6.1.4.19.1 General

All crew working on the site shall be equipped with the relevant safety equipment - safety helmets and boots, gloves and, where necessary, safety glasses.

Standby crew shall be placed on site during the event to open, close and in certain instances to remove side walls. The number of standby crew shall be determined by the sizes of the marquees/tents - the minimum number at any one time shall be two. The names and contact numbers shall be handed to the event organizer.

6.1.4.19.2 Action to be taken in the event of excessive wind

The person erecting the tent shall have sufficient staff, tools and equipment immediately available on site in the case of winds in excess of 35 km/h (9, 7 m/s).

In the event of winds in excess of 50 km/h (13, 8 m/s) continual inspection of the tent shall be conducted, and the occupants made aware of the evacuation procedures.

In the event of winds in excess of 95 % of the design wind load or the first signs of possible failure, the

order to evacuate shall be given immediately and the occupants moved up wind of the tent as quickly as possible.

6.1.4.20 Public liability

Marquee-hiring contractors shall maintain public liability insurance as per the Insurance.

6.2 Choosing the supplier

6.2.1 The event organizer shall choose a competent supplier for all temporary demountable structures to be erected and used on-site. Competent suppliers shall be able to demonstrate at least the following:

a. a knowledge and understanding of the work involved;

b. the ability to manage/eliminate the risks involved in constructing temporary demountable structures; and

c. Employment of a suitably trained workforce.

6.2.2 It is important to note that the design of temporary demountable structures is outside mainstream civil and structural engineering. Therefore, the design of temporary structures shall only be carried out by suitably competent people. A competent designer shall demonstrate

a) Full understanding of applicable codes and standards,

b) Full understanding of the loads that the temporary demountable structures might be subjected to,

c) Full understanding of the properties of the materials normally used for these structures,

d) Knowledge of the skills of the people normally employed to erect these structures, and

e) Full understanding of the proprietary structural elements used in these structures.

6.3 Design

6.3.1 All temporary structures shall possess adequate strength and stability, in service and during construction.

6.3.2 The design of a temporary structure shall provide protection against falls for

a) Performers - handrails shall be supplied at an appropriate height for all stage areas, platforms and access ways,

b) Workers, and

c) The attendees.

In addition, the surfaces of ramps or treads, particularly those that could become wet, shall be covered with a slip-resistant material.

6.4 Assembly and erection

the following:

a) The assembly of temporary structures shall be carried out in accordance with calculations, plans and specifications drawn up by a competent designer.

b) Apparent similarities between proprietary systems used for temporary structures might only be cosmetic. Products from different manufacturers shall not be mixed except where means to deal with potential hazards have been catered for.

c) Erection shall take place in a way that ensures stability at all times.

d) When practicable, temporary structures shall be erected either from the ground or from a stable platform.

e) Many temporary demountable structures cannot be built except by climbing the framework as it is assembled; this shall be addressed in the risk assessment and safety method statement.

f) Equipment shall be checked to ensure that it is fit for its purpose and fully complies with the relevant standards. For example, steel items with cracked welds, bent or buckled members, or with large amounts of corrosion shall be rejected.

g All components shall be examined during assembly (and dismantling) for signs of wear, deformation or other damage, and replaced, where necessary.

h) Correct alignment of components is important - they shall not be bent, distorted or otherwise altered in order to fit. Particular attention shall be given to fastenings and connections. It is essential to provide suitable covering for bolts and fittings that project into or adjoin audience areas.

i) Adequate and safe earthing of any structure.

j) Where guying is used, care shall be taken to ensure that the guys and their anchors do not cause an obstruction. All stakes or anchors shall be located or covered so that they do not create a tripping hazard, and shall be located such that underground cables and sewers are not damaged.

6.5 Protection against falling

Virtually every temporary demountable structure is free standing without the benefit of support from existing buildings or other sustainable structures. It is therefore very difficult to provide effective fall restraint systems for the workers assembling or dismantling the top components. As in the construction scaffold industry, maximum protection shall be provided by the selection of competent workers who have demonstrated their aptitude for the task and who are subject to ongoing assessment and training.

Where personal protective equipment is assessed to be the most effective means of controlling the risk of injury, employers shall supply these to workers. Employers shall advise workers on the usage of personal protective equipment and shall ensure that such equipment complies with relevant standards.

6.6 Protection from falling objects

While structures are being erected, the site shall be demarcated as a "no-go" area for all people who are not part of the current construction team, where possible. Where working space is not sufficient, applicable signs, for example, “Workers Overhead” and “Hard hat area” shall be used. The site is a construction site and therefore the construction regulations shall apply during the setup and the removal of structures.

6.7 Safe handling of loads

When handling loads, the main duties of employers shall be to

a. avoid the need for manual handling of loads involving a risk of injury so far as is reasonably practical,
b. assess the risk of injury in those operations that cannot be avoided, and
c. Reduce the risk of injury to the lowest level reasonably practicable using the assessment as a basis for action.

6.7.1 The assessment shall take into account a number of factors including the load, the task, the

working environment and individual capability.

6.7.2 Any event organizer who uses lifting equipment shall provide physical evidence (for example, a copy of the last report of thorough examination) to health and safety inspectors to demonstrate that the last inspection has been carried out. People who hire lifting equipment shall make sure that it is accompanied by the necessary documentation.

6.7.3 After positioning rigging and similar equipment, the user shall ensure that a competent person inspects the lifting equipment before it is put into use to make sure it is safe to operate. The user shall manage the subsequent lifting operations in a safe manner.

6.7.4 The selection of suitable work equipment for particular tasks and processes makes it possible to reduce or remove many risks to the health and safety of people at the workplace.

6.7.5 This applies both to the normal use of the equipment and also to other operations such as maintenance. The risk assessment will help to select work equipment and to assess its suitability for particular tasks.

6.7.6 Everyone involved in erecting and dismantling temporary demountable structures shall be appropriately trained. Training is now commercially available in safe techniques for high-level rigging, and those working at high level shall have undergone training and assessment in compliance with OSHA ACT 2007.

6.8 Dismantling

Dismantling of temporary demountable structures is subject to the same risks as the assembly operation. Therefore, it shall be carried out methodically by people who are appropriately trained, and strictly in accordance with the design documentation. Items or components shall be handed or lowered down, never dropped or "bombed" (thrown down).

6.9 Design concept and statement

All proper designs shall have calculations to determine the loading and other forces acting on the structure. Therefore, the designer shall be able to provide

a) a statement as to what the structure is designed to do (the concept),

b) a list of items or connections that require particular checking each time the structure is erected, and

c) particularly for outdoor structures, details of the methods of transferring all horizontal forces, for

d) Example, wind load transfer back to the ground (without which the structure will not be stable).

The physical checking of temporary structures becomes much more effective and simple if the designer's statement is available on-site.

6.10 Construction drawings

Construction drawings shall be required for all rostrums. These drawings shall be accompanied by full calculations, design loads and any relevant test results. They shall be made available for inspection and approval at least 14 d before the event. Supplementary details, for example, loads from lighting and sound suppliers, might not be available until nearer to the event, in which case “as-built” check calculations shall be made and proof of “as-built” adequacy lodged with the event organizer.

6.11 Safety method statement

A safety method statement shall be drawn up for the erection and dismantling of any structure. This shall be included with the initial plans and calculations. The method statement shall be

specific to the type of structure.

6.12 Certification

The event organizer, assisted by the safety coordinator, shall monitor all activities at the venue relating to the erection and construction of temporary demountable structures to ensure that they are erected in compliance with the manufacturer's specifications and that safety method statement and safe working practices are followed.

The event organizer shall ensure that all structures are checked by a competent person after they have been erected and before they are used, to make sure that they comply with the manufacturer's drawings and specified details. If the check is carried out by someone employed by the contractor erecting the structure, the event organizer shall verify that the checks have been carried out effectively and have been recorded. At this stage, a handover certificate shall be issued by the contractor to the event organizer. All electrical installations shall be certified upon completion in accordance with the ***Energy ACT CAP 38*.**

The temporary demountable structures shall be certified only by people who are competent to do so, such as structural engineers, or deemed competent by virtue of experience.

6.13 Before admitting the audience

Temporary demountable structures shall comply with the design documentation, before the audience is admitted to the site. If modifications to the structure are required, the event organizer shall liaise fully with the designer.

6.14 Monitoring after erection

6.14.1 Temporary structures

The event organizer shall ensure that a competent person monitors a structure that is susceptible to the effects of the weather and misuse (for example by overloading the roof structure) at all times. In practice this means that a representative of the supplier, or other suitably qualified person, shall be on site at all times while the temporary demountable structure is in use, either by workers or during a performance. The ground shall be checked regularly after the structure has been erected to confirm that no deterioration in its load bearing capacity, such as excessive settlement, has occurred.

6.14.2 People at work

If work is to be done on a completed structure at a height, a safe access system shall be used to ensure that maintenance and adjustments can take place. Guard rails for platforms shall normally be provided where a drop exceeds 2 m. Where an access platform is not practicable, an alternative means such as safety nets or a safety harness, which can protect workers from falling from working areas, shall be provided.

6.14.3 Falling objects

Platforms higher than 1. 8 m shall have either a clear space around them or a method of preventing objects falling onto people. Where items are being passed up a structure, for example, by means of a line or a lift, no person shall be allowed in the area immediately below or next to the loads.

6.15 Public protection against falls

Protection against falls, provided for the audience, shall not, in any circumstance, be removed, altered or tampered with in any way.

6.16 Providing adequate lighting

Lighting shall be sufficient to enable people to move safely on temporary demountable structures. Dazzling lights and distracting glare shall be avoided. Stairs shall be well lit in a way that ensures that shadows are not cast over the main part of the treads. Where necessary, local lighting shall be provided to supplement the general level of lighting available, for example, at locations of high-risk, such as where there are unavoidable changes in level.

Since it is considered difficult to avoid this situation, it is recommended that the performers be guided off the stage.

Lights and their fittings shall be positioned so that they do not form a hazard. Lights shall not be allowed to become obscured. Sufficient emergency lighting shall be provided in case of partial or complete failure of the normal lighting.

6.17 Marking of obstructions and edges

Fall protection for the edge of the performance area facing the audience is not normally provided but the edge shall be clearly marked. Other physical obstructions, unprotected edges, edges by gaps and stair nosing shall all be marked with luminous or reflective tape. Any such markings shall be a minimum of 25 mm wide.

6.18 Altering of structures

Components in temporary structures shall not be removed without first consulting the designer. If cladding is added to structures, they might become more vulnerable to wind (adding to the loading) and might also allow other forces to be transmitted to the temporary structure. Banners or other types of hoarding shall never be added to a temporary structure without first consulting the designer.

6.19 Work near temporary structures

Any ancillary operations that are carried out close to temporary structures shall not affect the stability of those structures. Where trenches are to be dug they shall be placed at a sufficient distance from a temporary structure so as not to undermine or adversely affect stability.

6.20 Managing the loads

Loads on temporary demountable structures can be applied in various ways. It is important to ensure that they do not exceed the design loads. Therefore, adequate measures shall be taken to prevent overloading by

a. people (due to overcrowding any part of a temporary demountable structure),

b. Unauthorized additions such as banners, hoardings, projection screens, scrims and scenic facades, and

c. Equipment such as lighting, special effects, sound systems, video and TV screens. Banners, hoardings, projection screens, scrims and scenic facades shall only be added to temporary demountable structures with the consent of the designer.

6.21 Roofs, stages, seating and platforms

6.21.1 Seating stands

The following requirements for seating stands, including bleachers, retractable, scaffolding, type seating, flat seats, decks, mobile seating, and trailers apply:

a) drawings shall be submitted to and approved by a structural engineer before construction;

b) drawings shall be submitted timeously to the relevant local authority/council for written approval;

c) access and egress shall be clear of obstruction;

d) drawings shall indicate seats, aisles/walkways, stairs and clearance capability;

e) a whole stand shall be able to be cleared within 8 min;

f) Before the erection of any stand for seating, the ground shall be tested by means of a damp-proof course test to ensure its suitability.

g) Slopes of up to 1:6 are considered safe. An engineering certificate shall be obtained when radical slopes are to be used;

h) jacks shall be centered on sole boards that are a minimum of 450 mm long by 45 mm thick by 228 mm wide);

i) the load shall be spread evenly on soft sand, beaches etc. by the use of sole boards;

j) The proper equipment that is cleaned, painted and that complies with design requirements shall be used for each installation. No protruding sharp objects shall be present on the installation;

k) All required bracing shall be installed and placed in all required directions (such as plan, longitudinal, face, and sway, diagonal and front to rear). All fittings shall be properly tightened;

l) Seats shall be properly secured and in good condition. If seats are fastened together, the maximum number of seats shall not exceed 30 seats between aisles. No person shall be allowed to obstruct the aisles;

m) front and middle cross-over walkways shall be clear of any obstruction and no person shall be allowed to sit in a walkway;

n) Proper support to walkway boards (reinforced support members) capable of bearing anticipated loadings (a minimum of 500 kg/m^2 with a minimum factor of safety (FoS) of 2) shall be ensured. Proper stair facilities for

o) access and egress shall be available;

p) Guard rails shall consist of at least a knee rail and a handrail. A bottom rail and the use of fence barriers could be considered as well, and shall be strong enough to withstand a minimum horizontal force of 300 kN and shall be correctly spaced. Children shall not be allowed to climb or hang on the rails and barriers;

q) in the interest of public safety appropriate warning signs shall be displayed

r) Wind loadings on shade netting and advertising boards shall be taken into account. If a structure is covered on all four sides with shade netting or advertising boards (or both), an opening shall be provided for inspection purposes.

6.21.2 Scaffolding for lighting towers and special effects

Scaffolding for lighting towers and special effects shall comply with OSHA 2007

If lighting or sound equipment (or both) is hung on scaffold towers, correct load bearing beams shall
be used.
If loads of more than 320 kg/m^2 are to be installed, a structural engineer shall be consulted for the design of the load bearing scaffold towers.

Scaffold erectors and scaffolding supervisors shall be competent, correctly trained and in possession of a certificate to carry out their work.

6.21.3 Platforms, public decks, skyboxes, floor leveling and decks for marquees

Drawings for the construction of platforms, public decks, skyboxes, floor leveling and decks for marquees shall be approved by a structural engineer.
Properly reinforced load bearing members shall be used to support a deck carrying a minimum load of 500 kg/m^2.

6.21.4 Screens (plasma, video, LED, LCD, etc)

6.21.4.1 Correct scaffolding or tubular structures for the erection of screens shall be used and approved by a structural engineer. Wind loadings shall be taken into account. All electrical equipment shall be earthed correctly.

6.21.4.2 Counterweights to counter overturning of the structure shall be installed. Overturning moments shall be considered by the engineer. The platform shall be installed on reinforced load bearers and shall be designed and checked for point and uniformly distributed loads (UDLs). Loads shall be spread across the complete platform using sole boards or appropriate timber-spreaders. All screens shall be positively attached to the structure. The use of rope is not acceptable. Truck straps could be used. The outside perimeter shall be fixed by a bolt and nut or proper mechanical system. The structure shall be made waterproof.

6.21.4.3 The control booth shall have line of sight to the stage.

6.21.4.4 Emergency/standby power arrangements shall be in place.

6.21.4.5 No member of the public shall be allowed access to the screen area. The effect of wind on frame and fabric type screens shall be taken into account. If projectors are used they shall be mounted on a proper structure.

6.21.5 TV platforms/camera towers

Scaffolding for TV platforms/camera towers shall be well erected in accordance with. The

following safety measures shall be in place:

a) Earth spikes to earth the structure;

b) Lightening conductors (if needed, depending upon the risk assessment);

c) anti-slip tape installed on stair edges, platform edges and any other surfaces that may become slippery due to dew or rain;

d) Proper roof canopy structures to prevent risk of electrocution of operators and damage to equipment;

e) The camera tower base size shall be stable. The base dimension of the tower shall be a minimum of one third of the height of the tower. The use of guy ropes for extra stability is recommended;

f) Wooden or rubber mat platform covering;

g) the use of knee rails is only permitted for the area in front of the camera, provided that a risk

assessment has been done and the operator has been given a safety briefing that is documented and signed off. Handrails shall be installed around the rest of the platform. It is recommended that a safety harness be used; and

h) A jib arm to hoist camera equipment.

NOTE Staircases with handrails are recommended. Ladder beams are unsafe and should be avoided.

6.21.6 Crane jibs/giraffes/remote control boom arms

The support structure shall be designed to support loads. If a rail track is used, it shall be barricaded to prevent public access.

6.21.7 Mobile elevating work platforms (MEWPs), scissor lifts and boom lifts

The event organizer shall ensure that

a) No person operates MEWPs, scissor lifts and boom lifts unless he/she is in possession of a certificate of training issued by an approved organization (OSHA ACT 2007),

b) the operator only operates the type of MEWP, scissor lift and boom lift for which he/she has been declared competent, and

c) MEWPs, scissor lifts and boom lifts have valid certificates of inspection and testing issued by an approved

6.21.8 Platforms/ramps for persons with disabilities

The slope of platforms/ramps for persons with disabilities shall be not more than 1:15. The surface shall be non-slip and the width shall be a minimum of 1, 5 m. Handrails shall be fitted and seating shall be provided for assistants (pushers of wheelchairs etc).

The line of sight for and location (being too close to speakers or too close to toilet facilities) of persons with disabilities on the platform shall be taken into account.

6.21.9 Sanitation

6.21.9.1 Different type of portable sanitation units are available on the market, such as rockets/ portaloos /polyjohns, executive trailer units (two toilets per unit, usually towed by a light duty vehicle (LDV)) and modular-building type units (normally consisting of urinals and toilets).

6.21.9.2 Screening shall be provided around the ablution area. Access shall be provided for the vacuum tanker (also known as a honey sucker in industry) to get to the units to clear and clean them. Time restriction shall be taken into consideration for access of the vacuum tanker.

6.21.9.3 Separate facilities should be provided for male and female attendees, where possible. Cleaning

staff should be assigned for the maintenance of the ablution facilities.

6.21.9.4 When siting ablution facilities, the effect of wind, heat, cold, rain, smell, sun and slope, and aesthetic aspects shall be taken into account.

6.21.9.5 Ablution facilities that are suitable for use by persons with disabilities shall be taken into consideration.

6.21.10 Screened barriers

Screened barriers refer to speed fencing, scaffolding barriers and any other barrier that are used to
channel crowds and that have shade netting or advertising boards attached, which constitute a wind
trap.
The covering porosity to wind shall be considered. The density of shade nets (80 %, 50 %, etc.) shall also be taken into account.

6.21.11 Sound dampers around generators

Occasionally generators will be required as standby or backup power. It may be necessary to dampen the noise created by generators through the use of screens for the residents of nearby homes, or the set-up.

Bales of hay are a good acoustic insulation material but consideration shall be given to the fire hazard that might be created, the possibility of damp and the removal of the bales.

6.21.12 Caravans

The regular use of caravans for accommodation at events should be considered. The following shall be taken into account:

a) Ablution facilities;

b) Power;

c) The size of stands;

d) Access and egress; and

e) The ecological impact.

6.21.13 Temporary modular buildings (TMBs)

Temporary modular buildings (TMBs) are transported on heavy trucks. The TMBs are bulky and require cranes and special jacks with spreader bars to be moved. Ground (as level as possible) and site conditions (wet, slippery grass or paving) shall be taken into account when planning the sitting of these units.

The TMB units usually need power for air conditioning, computers, plugs, radios, etc.

6.21.14 Light duty frame towers

6.21.14.1 Light duty frame towers are easily erected mobile scaffold towers and are only suitable for light duty work such as changing light bulbs, providing access to heights, and general maintenance work.

6.21.14.2 They are not suitable for use as load bearing structures such as those that support PA systems and roofs.

6.21.14.3 Correct components such as castor wheels, plan and knee braces, toe boards, trap doors, tie bars and steel board have to be used when erecting these towers. The maximum height for safe use is

three times the minimum base dimension, i.e. 3 m × 3 m = maximum height of 9 m.

6.21.14.4 Weight bearing capacities shall be used in accordance with the manufacturer's specification. A sign with the maximum load bearing capacity shall be affixed to each tower.

A scaffold tag detailing information relating to the scaffold shall also be affixed to the tower.

6.21.15 Aluminum zip towers

Aluminum zip towers are light duty easily erected mobile scaffold towers. They are only suitable for light duty work such as changing light bulbs, providing access to heights, and general maintenance work.

The maximum free-standing height as recommended by the manufacturer shall be adhered

to. Generally, this height should be not more than 12, 5 m.

Outriggers shall be used on any tower higher than 6 m. Steel and aluminum shall not be mixed as this will cause reactive corrosion.

Weight bearing capacities shall be in accordance with the manufacturer's specification. A sign with the maximum load bearing capacity shall be affixed to each tower.

6.21.16 Ladders

6.21.16.1 Ladders intended for domestic shall not be used in a commercial application. Users of ladders shall adhere to rated loadings.

6.21.16.2 Ladder inspections shall be carried out on a monthly basis and records shall be kept in accordance with the relevant national occupational health and safety legislation (see foreword).

6.21.16.3 Ladders shall have the following minimum safety features:
a) Non-slip feet;

b) Securely fixed extensions and guides;

c) Correct extension guide ropes; and

d) Correct d-ring shapes for stiles.

6.21.16.4 Extra care shall be taken when using double or triple extension ladders.

6.21.16.5 Cognizance shall be taken of the ladder's positioning in the height to perpendicular ratio.

7 Communications

7.1 Communication and coordination

7.1.1 The event organizer shall develop and implement a communication strategy to provide suitable and identifiable communications facilities that are available for effective management and implementation of any plan.

7.1.2 Information shall be communicated to contribute to the safety and well-being of the audience.

7.1.3 The range and level of information communicated at any event shall be determined by the event risk assessment.

7.1.4 Communication responsibilities of all role players involved in the event shall be assessed individually and jointly for good coordination of the overall communication strategy. This includes examining the general and operational management of the event, handling routine health, safety and welfare information and communicating effectively in the event of a major incident.

7.2 Communication during the event planning phase

Everyone involved in the planning of an event shall keep proper records of decisions and ensure that relevant information is communicated to others. Statement of intent documents shall be clear and unambiguous in their definition of roles and the responsibilities of different agencies and individuals.

7.3 Preparation of key support documentation

7.3.1 The event organizer shall not use ambiguous language in providing a clear and reliable

communication framework. Jargon and acronyms should preferably not be used. When they are unavoidable, a glossary of terms shall be included in the main planning documents.

7.3.2 Terminology to be used shall be agreed upon by people preparing plans, documents and communication procedures in relation to:

a) naming different control points and control workers;
b) labeling different types of rendezvous and collection points;
c) providing unique reference labels for key locations within and around the venue;
d) clear naming conventions for categories of people involved on site;
e) compatible terminology for assessing risks and grading levels of urgency;
f) Clear contact protocols for establishing communication..

7.3.3 Plans shall state who does what, not just what is to be done, and this shall be written in clear and simple language, for example, "the VOC shall be informed when an incident occurs", not "the duty officer shall inform the incident control room". Visual data and maps shall show key routes for vehicles and people, and restrictions on access.

NOTE A site plan (drawn on a grid) for the venue and its immediate surrounds is recommended. Discrepancies can result in delayed responses, misdirected resources and communication channels being unnecessarily blocked with requests for clarification and attempts to sort out confusion.

7.3.4 Attention shall be paid to the consistent labeling of features and functions in different documents. If a feature occurs more than once (for example, if there are several emergency care points) each feature shall have a unique reference. The applicable authority shall be consulted before plans are altered so that possible consequences of the changes can be considered.

7.3.5 The event organizer shall appoint a network coordinator as a single point-of-contact. Such a person should receive, collate, cross-check and spread information about radio-channel frequencies, call signs, phone lines, alert cascades, camera points, sitting of control equipment, contact lists, etc.

7.3.6 These data shall be placed on A3 maps. Maps shall be clear and succinct. Separate maps will reduce confusion.

7.3.7 The event organizer shall ensure that major incident plans are compatible with emergency plans drawn up by the local authority or emergency services and shall make sure that relevant information is easily available to people in control rooms at remote locations.

7.3.8 Many other types of documents (technical diagrams, safety certificates, licences, approvals, minutes of meetings, etc.) will feature in the overall communication processes, reference, guidance, authorization or approval. The event organizer shall keep all documents up to date and inform people involved in the planning process of any changes immediately.

7.4 Framework for handling the event

7.4.1 The event organizer shall ensure that there is a framework that allows effective communication within each organization, and between individual emergency services, the event organizer, stewarding event organizers, the local authority and different agencies (police to fire, stewarding event organizer to ambulance, venue operator to police, etc.).

7.4.2 Such a framework involves both on-site and off-site links to ensure that

a) Event organizers who need to respond to events on-site can be easily contacted,

b) appropriate organizations can be informed of events on-site that might have off-site repercussions.

7.5 Communication controls in the VOC/JOC

The event organizer shall ensure that:-
a) Power supplies for communication equipment should be independent of production power supplies and with independent back-up facilities. Test power supplies for their ability to provide continuity of communication when switching over to auxiliary power. It is important that the back-up supply is adequate. In a major incident, this supply may need to last beyond a scheduled event finish time.

b) Ensure that incident control rooms or 'units' have a clear view over as much of the event as possible, are easily accessible and have adequate space for equipment and for workers to operate effectively.

c) Links should be available to allow communication between key personnel.

d) Arrangements should ensure that communication is possible between incident control rooms and critical locations and activities.

e) Co-locate communication controls for stewarding/security, emergency services, local authority and first-aid providers wherever practicable.

f) Staffing should be sufficient to allow for periodic policy and review meetings between personnel from different organisations.

g) Radio controllers must have the option to stop 'talk-through' facilities if an urgent situation develops.

h) Route all cabling and wiring through areas of low risk from fire or other damage.

i) Arrange for maintenance workers to be on hand to carry out any necessary repairs or adjustments.
j) Appropriate levels of soundproofing are essential and where appropriate, provide workers with headsets to cut out interference from noise within a busy control room.
k) Provide key items of documentation and stationery in all control rooms: site plans, key contact details, alerting cascades, message pads, log sheets, etc.
l) Display frequently-used information clearly (site plans, key contacts, etc) and make sure facilities such as white boards or flip charts are available for writing up incident-specific information as it arises.

m) The need to maintain and operate emergency communications from an alternative site.

7.6 Off-site links

7.6.1 The event organizer shall provide details of the event in the communications hub of each of the emergency services and ensure that communication lines, whether by radio or telephone, to the local headquarters of all emergency services are available at all times so that emergency calls can be made instantly.

7.6.2 The event organizer shall make arrangements for communicating with service providers that are affected off-site by movements of large numbers of people, for example, traffic police, and transport providers. This is particularly relevant when unforeseen events (such as curtailment of an event) could have significant knock-on effects at locations remote from the event itself.

7.7 Radio communication

7.7.1 Depending on the size of the event, there can be many radio sets and networks operating simultaneously on-site. The event organizer shall inform contractors of the frequencies that are available before they hire radios. The network coordinator shall collect information on all proposed frequencies and consult with local emergency services.

7.7.2 Each event organizer that requires radio communication shall consider what operational channels are necessary for identified functions or areas. In addition, emergency services shall consider the need for command channels at large events.

7.7.3 The event organizer shall ensure that pre-event checks are done on radios and that full perimeter tests are done to ensure that coverage is adequate. At an outdoor site, appropriate positioning of masts, antennae and repeaters might require prior research and testing.

The erection of temporary structures can have a significant impact on radio coverage and corrective measures may be necessary. Headsets for cell phones, radios and other forms of verbal communication shall be used.

7.7.4 The event organizer shall ensure that all workers who work in high-noise areas are issued with ear-defending headsets.

7.7.5 The event organizer shall ensure that all batteries are fully charged before the start of the event. Adequate numbers of spare batteries and charging facilities are essential.

7.8 Telephone equipment

The event organizer shall have external lines provided for immediate telephone contact between the venue control points and emergency services control rooms off-site. These lines shall be used for that purpose only. Dedicated lines and unlisted numbers should be considered.

Field telephone networks and cell phones shall not be relied upon for important links and especially not for emergency communication.

7.9 Communication procedures

There shall be a clear framework of information flow procedures that stipulate who shall inform whom of what, when, and by what means.

The event organizer shall ensure that the following are adhered to:

a) tight radio discipline with proper use of call signs and contact protocols;
b) making the purpose/function of a message clear (is it a question, warning, request for action, command, prohibition, etc);
c) cross-checking that messages have been received and interpreted correctly;
d) relaying message content clearly and unambiguously;
e) keeping accurate records of communication activity;
f) Keeping accurate logs of decisions and actions.

7.10 Message delivery and acknowledgement

Workers shall be aware of the possible consequences if messages are not properly communicated and understood.
There shall be marked differences in levels of local knowledge among workers at and around the

event, and therefore procedures for acknowledging or reading back messages shall be introduced.

7.11 Situation reports

7.11.1 The event organizer shall develop procedures for providing information from the scene of an incident or emergency.

NOTE 1 A practiced format helps the person providing information to include necessary details for an appropriate response.

NOTE 2 A familiar communication pattern helps people who receive information to anticipate and recognize items; this assists the receiver to note that the information is ready for subsequent use or relay.

7.11.2 A situation report format shall work equally well for any type of incident and shall include, but shall not be limited to,

Identification:	call signs, names of calling and called parties;
Location:	exact details of where the incident is;
Incident:	precise details of what is involved;
Requirements:	Details of services, equipment and agencies required.

7.11.3 The event organizer shall obtain acknowledgement that the key items in 11.11.2 have been received and understood before giving further details. If more information is available, further items that are particularly important in second or further transmissions are as follows:

Warnings:	details of any hazards (present or potential);
Access:	any details about what might affect access to the scene, or advice on the
Casualties:	quickest access route;
Control point:	any details known about injured or sick people;
Other information:	details of who to contact and where, for more information from the scene;

7.12 Alerting procedures

The event organizer shall ensure that adequate and effective alerting procedures are in place. Since each link in a communication chain is a potential source of misunderstanding or breakdown; alerting chains between informants, decision makers and response providers shall be as short as possible.

Alarms or threats shall be evaluated on their merits, but in those circumstances where the first response is to investigate further, specific instructions or coded announcements shall reach all those who have an emergency role. All workers involved shall be on stand-by at designated emergency positions and await further information.

7.13 Regular updating

The event organizer shall ensure that communication channels for easy access to information are in place.

7.14 Record-keeping

The event organizer shall keep records and log information throughout the course of an event. Logs shall show key events and actions in sequence. Logs are a valuable tool for keeping workers informed of the progress of any incident.

7.15 Training, briefing and preparation

The event organizer shall train workers appropriately. The training shall cover all issues ranging from using appropriate radio discipline to keeping decision logs. There shall be proper briefings for all workers about their duties for the event. This includes briefing of workers off-site, for example, workers in incident control rooms that need to be aware of special arrangements for an event.

7.16 Public information and communication

7.16.1 Public address (PA) systems

PA systems are a vital channel of communication with the audience. The output shall be clear and intelligible for everyone of normal hearing in all parts of the venue, including the immediate surrounds. The event organizer shall ensure that the PA announcer has a good view of as much of the venue as possible and good communication links with control points. In the event of a major incident, override facilities shall allow announcements to be made over the PA system without interference from other sound sources. The circumstances in which this will happen shall be agreed upon between the JOC and the event organizer and shall be stated in the major incident plans. The PA system shall be fully tested before the event.

7.16.2 Loudhailers

The event organizer shall
a) Provide loudhailers at strategic points in the venue for use by stewards and police for urgent communication and as a backup in case the PA system fails,

NOTE The use of vehicular PA systems could be considered.

b) Train workers on how to use loudhailers and ensure that workers know where loudhailers are located, and
c) Ensure that batteries for loudhailers are fully charged.

7.16.3 Emergency public announcements

7.16.3.1 Where there is known danger, early warning is essential. Many estimates of crowd evacuation times only calculate the time between a crowd starting to move and the time the area has been cleared. However, in many situations, the time between first requesting the attendees to evacuate an area and when they start to comply is a significant factor in the overall evacuation. Persuasion time shall be added to movement time.

7.16.3.2 The major incident plan shall indicate who has the authority to decide that an emergency announcement is necessary, who shall make the announcement and under what circumstances shall the announcement be made. Plan the wording of announcements or text messages as far as possible. Agree on the messages to be made through consultation between event organizers with a safety role.

7.16.3.3 Instructions shall tie in with route marking, signs and other visual cues. Announcements shall be clear and specific about location references (for example, avoid relative references that can be interpreted differently, such as "away from the front" or "further back"). In serious situations, an integrated approach would combine spoken announcements, text displays and directions from stewards in high-visibility clothing. Reinforcement and repetition are needed to keep the attendees on course.

7.16.3.4 Key elements shall be repeated: what action is required, the nature of the incident, where to go, what to do on arrival. The attendees shall be told that the key elements will be repeated as they proceed along their route. If not, they might be afraid of missing information and impede flows by stopping to check, seeking an authoritative figure to ask, or waiting for a further announcement.

7.16.3.5 The attendees shall be kept up to date of the situation, even if no changes have occurred. This will pre-empt individual queries and remove pressure from workers.

7.16.3.6 Key points for emergency announcements are as follows:

a) Early warning/timely information is essential.
b) Persuasion time must be added to movement time.
c) Clarity and quality of announcement delivery are crucial.
d) Consideration should be given to whether an audience will respond better to an empathy figure making certain announcements.
e) Live, directive messages relating to the circumstances are more effective than those that are pre-recorded.
f) Reasons for messages (the nature of problems) should be given where possible.
g) Key message elements and sequencing should be pre-planned.
h) Announcements should be reinforced by message displays where possible.
i) Sectoring facilities can help public announcements to be targeted effectively.
j) Positive statements and instructions are preferable to negative ones.
k) Key items should be repeated (location of problem, required destination, required route, etc).

8 Transport and traffic management

8.1 Transport management

The ERC shall consult timeously with the appropriate transport, road and traffic authorities to identify all the needs. For example route planning, road closures, restrictions, applications and approvals.

The ERC shall:-

a) Plan for the management of vehicles parking and identifying the likely resources required and methods to be used for parking management.
b) Ensure that parking areas are adequately lit, sign-posted and labelled with reflective numerals or letters so that vehicles can be easily located at the end of an event or in any emergency
c) Plan provision for the entry and exit of emergency service vehicles. These routes shall be separated and safeguarded.
d) For large incidents, plan for the possibility of providing for road closures, banned turns, lane closures, parking restrictions, temporary speed limits and lay-by closures, and traffic free zones
e) Consult with the local traffic authority to ensure that traffic arrangements and temporary traffic regulations orders are in place.
f) Keep in mind that only the local authority approves road closures and provision for road closures regarding, for example traffic officials, signage, barriers and public notices.

8.2 Traffic marshalling

8.2.1 Only the traffic police, police or someone under their direction can legally undertake traffic regulations on public roads. Therefore the ERC shall consult with them to secure the appropriate provision of resources. Rescuers directing traffic onsite shall have suitable personal protective equipment, such as high-visibility clothing, torches for night incidents and weather protection.

8.2.2 The ERC shall ensure that there is suitable and sufficient communication between on-site and off-site traffic marshalling regarding temporary one-way systems etc. also, adequate numbers of rescuers shall be provided to manage traffic flows and to deal with parking of vehicles.

8.3 Emergency access

8.3.1 The ERC shall plan provision for the entry and exit of emergency service vehicles. These routes shall be separated and safeguarded. The routes and access chosen shall allow for means of access by the fire brigade to within 50M of any structure, including fuel storage facilities. The access route will need to bear the weight of fire appliances; therefore routes with manhole covers should be avoided. These routes shall be signposted.

8.3.2 The ERC consult the local authorities concerning access route specification and incorporate this into the transport management plan. In respect of early application for road closures and temporary traffic regulation, orders shall be required. It is also important to identify allocated emergency vehicle rendezvous points in the transport management plan.

8.4 Vehicle access

8.4.1 The ERC shall ensure that the road signs are appropriate and easily visible, the capacities of parking areas are adequate and the surface is capable of withstanding the anticipated traffic volume. Using hardcore, track way or other suitable temporary surfacing that can prevent damage to the ground and that might prove invaluable in wet ground conditions should be considered.

8.4.2 Detailed capacity assessment might be needed to ensure that the access/entry capacity is adequate. Methods for ensuring the safe exit of vehicles from the site need just as much careful planning.

8.4.3 The planning of alternatives routes and accesses should be considered. These can be used if main access points or routes become blocked.

8.4.4 Vehicle access for service vehicles, for example waste collection vehicles and sanitary servicing vehicles, before, during and after the event shall be planned. Large colour-coded parking permits with the vehicle registration number reduce vehicle access problems.

8.5 Parking

8.5.1 The ERC shall plan separate parking areas for the general traffic, vehicles for people with special needs (close to the event site), mass transport, guests/VIPs, emergency service workers and event workers. Over pill-parking facilities either onsite or at a convenient location off-site to accommodate the potential for excess attendees should also be planned. This should take the form of a vehicle circulation/holding area as a temporary measure.

8.5.2 Parking areas shall be adequately lit, signposted and labelled with reflective numerals or letters so that vehicles can be easily located at the conclusion of a response operation. Mass transport vehicles should be separated from the response vehicles. Signs shall be positioned at exit gates leading from the parking areas to the scene to assist in identifying the location of parked vehicles. Clear signs for exiting vehicles showing route direction shall be considered.

8.6 Mass transport

8.6.1 For large incidents, the appointment of the traffic management coordinator, who shall be a member of the incident response coordination team, shall be considered. Such coordinator will liaise with the Security Services and local authority.

8.7 Pedestrians

8.7.1 The ERC shall identify safe means of evacuation. Special arrangements shall be made for persons with disabilities and those who might not be able to walk long distances. Entry and exit routes that cross parking areas shall be avoided. Where this is unavoidable, adequate traffic control measures shall be planned.

8.8 On-site vehicles management and temporary roadways.

8.8.1 It is important to minimise traffic movement within the site in order to avoid accidents between vehicles and pedestrians.

8.8.2 Vehicles shall be moved into the parking areas as efficiently as possible.

8.8.3 Traffic movement shall be restricted at the scene except to emergency services vehicle and other essential services.

8.8.4 Speed restrictions shall be enforced onsite.

8.8.5 All vehicles onsite shall switch on lights at night time when in motion in order to avoid pedestrian and vehicle accidents.

8.8.6 Where vehicle routes change from those arranged at planning stage, owing to heavy rain or some other unforeseen circumstance, arrangements shall be in place for reinforcing the alternative route. Safe vehicle recovery from soft ground shall be planned.

8.9 Heavy machinery

8.9.1 The ERC shall ensure that:-
a) No person is permitted to operate heavy machinery unless such a person has been licensed to do so.
b) Licensed operators have a certificate from an accredited entity indicating the type of forklift truck for which they have received training.
c) Hired heavy machinery has a valid certificate of inspection and testing, issued by the Motor Vehicle Inspection Unit (MVIU).
d) The heavy machinery is marked with the Safe Working Load (SWL), and
e) No person shall be lifted by a means of heavy machinery.

8.10 Other vehicles used on-site

8.10.1 There might be a need for other types of vehicles to operate on-site such as:-

a) Specialised lifting vehicles, tractors, water bowsers and waste-collection vehicles.

8.10.2 The use of all vehicles on-site shall be carefully planned and monitored to ensure that accidents do not result from the incorrect use of vehicles or that pedestrians are not injured as a result of the use of such vehicles.

8.11 Helicopter rescue

Where the ERC determines that there will be need for helicopter rescue service, the ERC shall select/designate an appropriate helicopter landing area.

9 Facilities for persons with disabilities

9.1 General

Persons with disabilities are entitled to a barrier- free and disability friendly environment to enable them to have access to buildings, roads and other social amenities, and assistive devices and other equipment to promote their mobility.
Wheelchair spaces in parts of a seated area shall allow for adequate room for manoeuvring a wheelchair. Generally, a manual wheelchair needs a space of approximately 0,9 m width and 1,4 m depth. Electric wheelchairs need more space. Seating for assistants who manoeuvre the wheelchairs shall be considered.

9.2 Alternative to auditory information

Wherever feasible, sound signal should be supported by visual or other sensory stimuli for those with a hearing impairment (e.g. communication in writing, graphical symbols, vibration or sign language). In particular, audible warnings, such as fire alarms, should also activate for example visual stimuli, such as flashing lights which are well sited and clearly indicated.

9.3 Alternatives to voice input

Where voice input is used to activate a process, for example building entry security systems, alternatives such as keypads or use of video monitoring should be considered.

9.4 Biological identification and operation

Where biometric forms of identification are intended, an alternative form of identification or activation should also be provided. For example, if systems require a retinal scan and a person does not have a retina, or the system requires a fingerprint and the person does not have hand or uses a prosthesis, such people are unable to operate the devices unless some alternative form of identification is submitted.

9.5 Prevention of seizures

Flicker rates or flashing or blinking text, objects or video screens should avoid frequencies that are most likely to trigger visually induced seizures.

9.6 Lighting levels and glares

9.6.1 Provision of lighting

Appropriate lighting ensures that those with a visual impairment are better able to see instruction and controls. This should also be considered for those with a hearing impairment to assist with lip reading or sign language communication.

9.6.2 Consideration of ambient lighting

The likely lighting levels in typical use should be considered, for example television controls may be operated in a darkened room installation of a product may be in a dark space.

9.6.3 Buildings

Adjustability of lighting levels in a building is desirable to suit different needs but sudden changes in lighting levels should be avoided.

9.6.4 Avoidance of glare

Too high light levels and strong directional light can result in deep shadows or glare. Reflecting surfaces on information panels and glossy paper in instruction books or on packaging containing warnings should be avoided, to reduce the possibility of glare.

9.7 Colour and contrast

9.7.1 Choice of colour

This is important for ease of recognition and ease of seeing. Some colour combinations are also more effective. For example some colours, such as red/green, are not distinguishable by a significant minority of the population (those with colour blindness).

9.7.2 Colour combinations

The best colour combinations depend on the purpose of information, ether it is for guidance or a hazard warning, and the lighting conditions under which it is most likely to be viewed. For example black on yellow or light grey are general purpose combinations which provide strong definition without too much glare, pastel shades on pastel backgrounds or red lettering or backgrounds or red lettering or symbols on light grey are difficult to see and should normally be avoided.

9.7.3 Colour coding of information

All information conveyed with colour should also be available without the perception of colour. Colour coding should not be used as the only means for conveying information, indicating a response or distinguishing a visual element.

9.8 Access

At indoor events parking facilities for persons with disabilities shall be located at the most direct accessible point to the entrances and exits with ramps. Spaces allocated shall be wider than normal (about 3,6 m) to allow room to manoeuvre. At outdoor events parking for persons with disabilities shall also be placed at the most direct accessible point to the allocated seating areas, and also the most direct accessible point to designated and accessible campsites. Direct and safe access links between the designated parking, camping and seating areas shall be provided. Flat surfaces or ramps shall be used to provide access from parking or drop-off areas to designated areas. All openings on the route shall be 1,1 m or wider.

9.9 Ramps

The event organizer shall ensure that ramps for wheelchairs have an easy gradient (i.e. not steeper than 1 in 12). Ramps shall have a level resting space landing every 10 m. They shall also have raised safety edges and handrails.

9.10 Viewing area

9.10.1 As standing attendees can cause surging movements, all persons with disabilities shall be located in an area where they will not be affected. When setting aside such a viewing area, the area shall present a clear view of the stage. The area shall be constructed using non-slip materials and shall have direct access to an exit.

9.10.2 At outdoor concerts wheelchair users can be accommodated either on an open area or on a flat terrace with direct access to toilet facilities and concessions. The eye level of a wheelchair user is estimated at being between 1,1 m and 1,25 m.

9.10.3 At events where 50 or more persons with disabilities are anticipated a dedicated exit shall be provided. No stairs or obstructions shall be on the route. A ramp is preferable.

9.10.4 A proprietor of a public building shall adapt it to suit persons with disabilities in such manner as may be specified by the persons with disability Act.

9.10.5 An operator of a public service vehicle shall adapt it to suit persons with disabilities in such manner as may be specified by the persons with disability Act. Adjustment orders in this section shall apply to –
(a) Any premises to which members of the public are ordinarily admitted whether on payment of a fee or otherwise; and
(b) Any services or amenities ordinarily provided to members of the public.

9.11 Emergency routes

It is essential that emergency evacuation routes are obvious, intuitive and accessible to wheelchair users and others with a movement or visual impairment.

9.12 Accessible routes

9.12.1 Changes of level

Accessibility in and around buildings can be improved by avoiding unnecessary changes in level at, for example, doorways and lift thresholds. Even very small changes of level, edges and protrusions can cause tripping. Where level changes cannot be avoided, they should be as low possible and clearly marked.

9.12.2 lifts/elevators and ramps
Where there is a change of level, lifts/elevators and ramps should be provided. The slope of ramps should be appropriate in
order to be safe and usable by persons using powered scooters, walking aids and wheelchairs.

9.12.3 Stairs
Any stairs and steps should be designed to accommodate persons with disabilities by providing handrails of an appropriate, diameter and height on both sides. Steps should be of a consistent rise and tread to accommodate the length of a human adult foot. End of flights of stairs should be marked by appropriate colour contrast.

9.12.4 Flooring
Flooring should be reasonably slip-resistant, firm and stable

9.12.5 Seating
This should be provided at appropriate locations in a facility or environment to enable users to rest.

9.12.6 Route information
Guidance on accessible routs through a building is of particular value to those with a visual, movement or cognitive impairments.

10 Sanitary facilities for Incident site

10.1 The ERC shall make provision for adequate sanitary facilities for the Incident site detailing the number, placement, maintenance and sewerage disposal of the units for the expected number and movement of the emergency responders. Provision shall be made for people with disabilities where these have been identified.

10.2 Portable toilets shall be readily visible, lit and clearly labelled from all parts of the incident site. The areas and where appropriate the individual sanitary units shall be adequately lit during the night and the day, if required. The recommended minimum lighting level will be **100lux** for general toilet areas and **200lux** for wheelchair –accessible toilets.

10.3 Portable toilets shall be regularly maintained, repaired and serviced throughout the incident response duration by using suitably experienced and competent workers to ensure that the toilets are kept safe, clean and hygienic and supplied with adequate toilet paper and water.

10.4 General guidelines for the provision of toilet facilities for a incident are given in the table below

Table 1- number of toilet facilities

1	2	3	4
For incidents where incident response duration time is of 6 h or more		For incidents where incident response duration time is less than 6h	
Female responders	**Male responders**	**Female responders**	**Male responders**
One toilet per 100female responders	One toilet per 500 male responders, plus one urinal per 150 male responders	One toilet per 120female responders	One toilet per 600 male responders, plus one urinal per 175 male responders

10. 5 The provision of sanitary facilities shall also relate to the expected number of people with disabilities involved in the response. It is suggested that one toilet with hand washing facilities be provided per 75 people with disabilities.

11 Waste management.

11.1 The ERC shall identify the type of waste that is likely to be generated, hazards posed by the waste, and methods of collection and disposal having due regard for appropriate by-law requirements.

11.2 A Waste management plan should be developed for the Incident. This plan should identify the types, volumes, hazardous nature of waste, temporary storage facilities and location, and methods of collection and disposal. It should also embrace the philosophy of water reduction, re-use and recycling.

11.3 Medical waste shall be disposed of by medical personnel in accordance with the relevant national/local authority's best practice.

12 Sound, noise and vibration

12.1 Emergency response workers shall be protected against exposure to continuous high-sound pressure and noise levels. It is recommended that hearing protection be made available to employees for continuous noise levels above 85decibels. The ERC is ultimately responsible for the provision and use of hearing protection by all responders on site.

12.2 Where practicable, emergency responders shall not be allowed within 3 m of any loudspeaker. This can be achieved by the use of approved safety barriers and dedicated rescuers who are wearing appropriate ear protection. Under no circumstances shall the emergency response workers and loud speaker separation distance be less than 1m.

12.3 A structural engineer is required to check the noise impact and voice vibration (exciting frequency) on all temporal structures. Consideration shall be given to the type of emergency incident. Cognizance shall be given to the exciting frequency on any permanent structures that may be affected.

13 Events on, at or near water

13.1 Risk assessment

A risk assessment shall be conducted for all events on, at or near water.

The hazards will vary, dependent on the event and water type, and may include

a) backwash,

b) Changes in weather and water conditions,

c) Currents, rips and drifts,

d) Eddies,

e) Hypothermia,

f) Insect bites and stings,

g) near drowning/drowning,

h) Persons in distress,

i) submerged objects,

j) Tides,

k) Waves, and

l) Whirlpools.

13.2 Safety of participants

13.2.1 Any member of the public who participates in a water related activity shall be deemed to bea participant.

13.2.2 Participants shall wear adequate body and head protection and flotation equipment as identified by the risk assessment.

13.2.3 The event organizer shall deploy sufficient craft, qualified staff and equipment as identified by the risk assessment.

13.2.4 In events with more than 50 participants or if indicated by the risk assessment, the event organizer shall appoint a rescue coordination.

13.3 Safety of spectators

13.3.1 The event organizer shall appoint rescue coordinator at all water-related events.

13.3.2 Adequate fencing shall be provided around the water to prevent spectators from accidentally falling into the water. Additional safety measures shall be put in place to prevent a hazard for small children. Adequate security staff shall be deployed to manage the crowd.

13.3.3 Sufficient craft, qualified staff and equipment shall be deployed to assist spectators should they fall into the water.

13.3.4 Additional safety precautions shall be in place at events where alcohol might be consumed.

13.4 Electrical safety

Special precautions shall be implemented for all electrical equipment used near water.

13.5 Foreign objects

No participant or spectator may throw any can, bottle or other object onto or into the water.

13.6 Rescue teams

Rescue teams used at water-related events shall consist of not less than two members.

13.7 Water rescue craft

The craft selected shall be seaworthy and suitable for the type of event and water and environmental conditions.

Special precautions are required when operating craft with propellers.

When operating water rescue craft, skippers shall

a) Be qualified to operate the craft, and

b) Ensure that adequate fuel is available.

13.8 Water rescue staff

13.8.1 Water rescue staff shall be

a) Equipped with personal protective equipment that is required to perform the task safely,

b) Fit, and

c) Competent swimmers.

13.8.2 Individual specialists may be used in water rescue teams, provided that the collective team can provide the following skills:

a) The ability to assess weather and water conditions and to take appropriate action;

b) The ability to safely operate the craft in use;

c) Knowledge of water safety;

d) Knowledge of water rescue equipment

e) Knowledge of water rescue operations (including search operations);

f) Knowledge of signaling and radio communication; and

g) The ability to render emergency medical assistance.

13.9 Water rescue equipment

The risk assessment will determine the type and quantity of equipment required.

The following equipment should be considered:

a. Air or oxygen (or both);
b. flares, flags, lamps and lanterns;
c. Flotation equipment;
d. Maps and charts;
e. Medical equipment;
f. Oars,
g. ropes, harnesses and slings;
h. Stretchers and splints; and
i. Waterproof radios.

13.10 Rescue coordinator

The rescue coordinator shall have a minimum of 100 h rescue operational experience and shall be competent in

a) Leadership skills,

b) The use of rescue craft,

c) The use of rescue equipment,

d) Rescue techniques, and

e) Water safety.

14 Facilities

14.1 General

14.1.1 The event organizer shall ensure that merchandising stalls and stands are considered in all aspects of the planning and management of the event.

14.1.2 The event organizer shall consider the following matters when planning the venue or site design:

a. the position, size and space requirements of the merchandising stalls or stands within the arena or venue to ensure that entrance and exit audience flows are not obstructed, or cause an audience build-up at any strategic points;
b. Whether stands and stalls are of a fixed or temporary nature?
c. check that any structures will be erected properly and will satisfy any structural integrity requirements (see chapter on Structures), as well as requirements in respect of fire safety (see chapter on Fire safety);
d. need to be considered as part of the overall electrical supplies to the event (see chapter on Electrical installations and lighting);
e. for any vehicle or vehicle movements associated with the stands or stalls; allocation of parking spaces and camping accommodation for people working at the stalls or stands;
f. power supplies, if required,
g. waste accumulation and collection;
h. Security arrangements.
i. Public liability and insurance certificates available on-site.

The event organizer shall ensure that people working on merchandising stalls and stands are informed of the site safety rules particularly in relation to the equipment that can or cannot be brought onto site or within the arena or venue. They shall also be made aware of the space allocated to them on-site and that they shall adhere to allotted space. Provision shall be made for storage of merchandising. Escape routes, emergency exits, etc. shall be avoided when storing merchandise. The allocated spaces shall be approved by the local authorities and fire services. The storage areas shall be included on the site plan.

14.2 Setting up, operation and dismantling

14.2.1 The event organizer shall ensure that all relevant safety information is provided to all workers by

a) Briefing all the people running the stalls and stands about safety matters and potential hazards on site,

b) Defining responsibilities for health and safety and agreeing upon methods of communication with the merchandisers, and

c) Handing a copy of the site safety rules to the merchandisers when they arrive on site and ensure that they and any subcontractors are informed of the site safety rules.

The relevant safety clauses shall form part of the contract with the merchandiser. The merchandiser shall ensure that the safety documentation is signed by his/her workers. The workers shall know the relevant safety information.

14.2.2 The event organizer shall check any public and products liability insurance certificates. The

operation time of the merchandising stands shall be agreed upon with the operator and procedures to be taken in the event of a major incident or contingency shall be explained. Any gas or electrical equipment brought onto site by merchandisers shall be accompanied by relevant reports and have undergone the recommended testing. All gas and electrical equipment shall comply with safety requirements.

14.2.3 In the case of permanent sites, information on health and safety policies within the premises will already be in place. Therefore, the procedures shall be followed at all times by all concerned.

14.2.4 Stewards working on behalf of the merchandisers, and who do not form part of the event stewarding teams, shall be approved by the event organizer and involved in the event briefing and the agreed lines of communication and coordinating activities. The use of radios shall be discussed to avoid conflicting frequencies.

14.3 Merchandising and special licensing

The event organizer shall plan and manage the following:

a) the merchandising facilities which include the structure of the stalls or stands;
b) the setting up, dismantling and operation of the stall or stand;
c) The items for sale as merchandising.

14.4 Catering facilities

14.4.1 Liquefied petroleum gas (LPG)

LPG is the main source of fuel for outside catering operations. The event organizer shall ensure that

a) all operators using LPG can demonstrate a basic understanding of its safe use, its characteristics and emergency procedures;
b) storage at each catering operation does not exceed that which is required for a 24-hour period or a maximum of 200 kg, whichever is the least;
c) all LPG is handled and stored in accordance with the current regulations and codes of practice;
d) All supplies of LPG whether in compounds or within catering operations are secure from interference by the audience.

14.4.2 Flammable liquids

14.4.2.1 The volumes of flammable liquids given in table 2 shall be kept at any one time on the premises during the event and shall not be exceeded.

14.4.2.2 Flammable liquids shall be stored only in containers (200 L or less in volume) that were manufactured specifically for that liquid. Such containers shall only be open able by special tools that are not available to members of the public, at the premises.

14.4.2.3 Decanted flammable liquid shall be stored in closed, purpose-designed containers only. These containers shall be secured from public interference and accidental overturning when not in use.

14.4.2.4 Flammable liquids stored in drums shall be decanted by means of purpose-designed pumps only. Decanting of flammable liquids from portable containers shall be done only from purpose designed portable containers.

14.4.3 Electrical installations

The event organizer shall ensure that electrical installations

a) Are of a suitable rated power output for the intended use,

b) Have been tested and certified by a competent person,

c) Are sited in a well-ventilated place away from LPG cylinders and combustible material,

d) Are adequately guarded to avoid accidental contact by people or combustible material,

e) Have cables and sockets that are appropriate for their intended use,

f) Are protected by an earth leakage device,

g) Have cables that do not create a trip hazard,

h) Have generators that are fuelled and re-fuelled in a safe manner, and

i) Have fuel for generators that is stored in a safe manner in suitable containers.

14.4.4 Fire fighting

The event organizer shall provide suitable portable fire-fighting equipment at the catering operation dependent on the activity type. The equipment shall comply with the requirements of Fire Safety & Prevention ACT. No combustible materials shall be allowed to accumulate next to any catering outlets.

Suitable equipment levels are as follows:

a) For non-cooking: a 2 kg dry-powder extinguisher;

b) For cooking: a 4,5 kg dry-powder extinguisher and a 1 m^2 light-duty fire blanket; and

c) For deep-fat frying: a 9 L foam-type fire extinguisher and a 1 m^2 light-duty fire blanket.

15 Incident planning (emergency planning)

15.1 Major and minor incident planning

15.1.1 The event organizer shall plan for the possibility of a major incident with relevant stakeholders.

The consequences of a major incident at an event could be catastrophic and it is necessary to plan for such an occurrence. A major incident will normally require a multi-agency approach in which the event organizer, police, emergency medical vehicles, fire authority, local authority, disaster management local emergency planning officer, stewards and emergency medical practitioners might play a part. It is therefore important that there is a clear demarcation of duties and that those responsibilities are agreed upon and understood at the event planning stage.

15.1.2 Agreed procedures shall be issued in writing to all relevant parties. When planning the JOC/VOC, all parties involved shall be briefed and a number of event planning meetings shall be held so that all matters, including incident planning can be finalized. The event organizer shall include the people (such as regulators and professionals) who need to decide on courses of action. The event organizer shall ensure that adequate minutes are taken, confirmed and distributed.

15.1.3 Minor emergencies or incidents that do not require the intervention of the emergency services, medical authorities or local authority will need to be dealt with by developing

suitable contingency plans. Incident planning should be such that there is no ignorance of the fact that a minor incident has the potential to develop into a major incident. Therefore, all precautionary measures shall be taken during the risk audit and during the assessment of the actual minor incident. Event organizers shall therefore develop contingency plans to deal with minor incidents along with their major incident plans. All planning shall be risk based and shall address the worst case scenario.

15.1.4 Major incident plans shall be developed in conjunction with the emergency services. When planning, it is of fundamental importance to identify precisely what needs to be done and to agree upon the situations in which it will be necessary to hand over coordination of an incident to the police or disaster management. This could be before any actual major incident has taken place if it is thought that a handover might prevent an incident from developing. It is also important to agree with the emergency services upon the procedures for declaring a major incident and who declares it.

The event risk assessment will be a good starting point for any major incident plan. This will help you focus on areas that will need to be considered. Areas should include:

a) topography;
b) fire/explosion;
c) terrorism;
d) structural failure;
e) crowd surge/collapse;
f) disorder;
g) lighting or power failure;
h) weather, e.g. excessive heat/cold/rain;

15.1.5 The event organizer shall consider the following matters when preparing a major incident plan:

a) identification of key decision-making workers;
b) identification of emergency routes and access for the emergency services;
c) identification of holding areas for performers, workers and the audience;
d) details of the script of coded messages to alert and 'stand down' stewards;
e) alerting procedures;
f) public warning mechanisms;
g) evacuation and containment measures and procedures;
h) details of the script of PA announcements to the audience;
i) identification of assembly points for emergency services;
j) identification of ambulance loading points and triage areas;
k) location of hospitals in the area prepared for major incidents and traffic routes secured to such hospitals;
l) details of a temporary mortuary facility;
m) an outline of the roles of those involved including, contact list and methods to alert them,
n) Details of emergency equipment location and availability; and documentation and message pads.
o) location of staffing and equipping of the VOC

15.1.6 The plan shall provide a flexible response whatever the incident, environment or available resources at the time. It might be necessary to prepare variations of the plan to deal with specific issues. The plan shall also build on routine arrangements and integrate them into the existing working procedures on-site.

15.1.7 A planning team that comprises staff from the emergency services and agencies shall be formed. The planning team will be required to respond to any emergency or major incident.

NOTE Experience has shown that a multi-agency approach to all planning shares the ownership of problems and leads to effective solutions. This approach can be termed integrated emergency management.

15.1.8 To be effective, the major incident planning team shall not be too large. It might be useful to

have a number of specialist subgroups. Each event organizer shall obtain a clear undertaking regarding roles and committed resources in the case of a major incident from each of the team members, for example the police, fire services, and emergency medical services. This shall be in the form of a statement of intent.

15.1.9 The person leading the planning team shall be competent to do so and shall have a broad understanding of the issues. This person does not necessarily have to be the event organizer or one of the workers. However, the event organizer shall be accountable for the plan's effectiveness and for the person chosen to lead the team. The event safety coordinator shall be involved in the planning process. Records of meetings and decisions taken should be kept.

15.1.10 The plan shall be written without jargon and shall be easily understood. Instructions, particularly in respect of action to be taken, shall be specific so that a named person/role/rank will carry out a specific function. A glossary of terms might assist. Much time can be saved if the layout of the plan allows for simple and quick updating. Revised copies shall be easily identifiable from a date/numbering system.

15.1.11 Detailed site plans (drawn on a grid) or aerial photography (or both) containing pertinent geographic and topographic features can be of great value during planning and in the event of a major incident. They will be particularly useful when calculating normal and emergency pedestrian flow.

15.1.12 once the plan has been agreed upon, the event organizer shall ensure that the people responsible for putting the plan into practice are fully briefed. Communication exercises are strongly recommended before the event. Stewards and others likely to have an emergency role, shall be issued with written details of their duties, major incident procedures and a site plan drawn on a grid. Relevant staff such as concessionaires and those supplying other services, which might be in a position to provide important assistance, shall be briefed on the major incident plan.

15.1.13 An event disaster plan addresses integration, coordination on a multi-agency basis and interacts with the security, fire and evacuation, emergency medical, traffic and crowd management, environmental health and other line plans.

15.3 Coordination of emergency services

Once a major incident has been declared, the VOC or JOC commander or appointed disaster management representative shall coordinate on-site and off-site activities of the relevant emergency services.

15.4 Venue operations centre (VOC)

The VOC is on-site accommodation that is set aside as a designated emergency or incident control centre. The VOC shall be staffed continuously while the event is running. The location of the VOC in the overall venue and site design shall be taken into account.

15.5 Emergency services vehicles

Emergency vehicles and the medical centre shall be situated to enable handling of minor or mass casualty with easy ingress and egress and direct communication with the VOC.

15.6 Voluntary agencies

Many voluntary agencies can provide high-quality aid at incidents and should be involved in the emergency planning.

15.7 Bomb threats

All bomb threats and suspicious objects shall be reported to the VOC immediately. The VOC, on advice of the police will decide on what action is to be taken.

16 Safety planning for an event

16.1 Feasibility study

The evaluation of an intended site for an event shall include factors such as the suitability of the venue for the type and size of event, liaison with the venue owner, reference erection of the structure and duration of the event, local authority contact reference plans (site or floor plans) and approvals required.

The event organizer shall prepare a plan which shall include the venue layouts, selection of competent personnel, selection of contractors and subcontractors, the design of temporary structures and fencing, etc.

The feasibility study shall include the following:

a) Preparation of a site development (or venue layout) plan indicating all temporary and permanent structures. The plan shall show the location of structures such as stages, barriers, emergency routes, exit and entry points, position of toilets, medical facilities and the location of the operations management (i.e. a JOC).

b) Approval of a site plan for fireworks and pyrotechnics (see clause 23).

c) Ensuring that any structure, for example, stages, seating stands and tents that will be used at the event are structurally safe during erection and use.

d) Requiring contractors to provide copies of their own health and safety policies and details of any hazards and risks associated with their work, before the build-up begins.

e) Requiring contractors to furnish proof of their compliance with the relevant national occupational health and safety legislation (see foreword) related to the services they provide at the event.

f) Obtaining documents and calculations in relation to the stages, seating and other temporary demountable structures, and engineers' certificates. These plans, documents, calculations and certificates will be required when discussing the event with health and safety inspectors and the local authority.

g) Obtaining the relevant permits before any erection or construction work for the event takes place.

16.2 The planning phases of an event

The planning phases for an event comprise the following:

a) **The build-up,** which involves planning of the venue design, selection of competent workers, selection of contractors and subcontractors, construction of the stages, marquees, fencing, etc.

b) **The load in,** which involves planning for the safe delivery and installation of equipment and services that will be used at the event, for example, stage equipment used by the performers, lighting, and public address (PA) systems.

c) **The show,** which involves planning of effective crowd management strategies, transport management strategies and health and safety arrangements. Planning strategies for dealing with, emergency care, contingencies and major incidents are important.

d) **The load out,** which requires planning for the safe removal of equipment and services.

e) **The breakdown,** which includes planning to control risks such as those related to the collection of rubbish and the disposal of wastewater once the event is over and the infrastructure is being dismantled.

16.3 Planning for the build-up

The event organizer shall prepare plans that show the location of the stages, barriers (including barriers of at least 50 m from the firing point of fireworks and 3 m from the firing point of stage and theatrical pyrotechnics), front-of-house towers, delay towers, entries and exit points, emergency routes, emergency care and triage areas, toilets, merchandising stalls, etc.

It might be necessary to obtain plans of existing premises on which the event is to be held from the owner, occupier or venue manager. Copies of these plans might need to be given to the contractors who are building the infrastructure to ensure correct positioning of the various structures to be used at the event. These plans shall indicate all concealed and underground services in order to ensure safe access and exit and to reduce the risk of damage.

The event organizer shall ensure by complying with 7.2.3(a), (b) and (c) that any infrastructure, such as stages, seating, tents, marquees or other structures, will be erected safely while in use.

The event organizer shall request contractors and subcontractors to provide copies of their own health and safety policies, and details of any hazards and risks associated with their work, before the build-up begins. Documents and calculations will also be required in relation to the stages, seating or other temporary demountable structures. These policies, documents and calculations will be required when discussing the event with OHS inspectors and officers of the local authority and the emergency medical services.

The event organizer shall draw up a set of site safety rules and communicate these rules to the contractors before or as soon as they arrive on-site. These rules can be posted in the form of signs in the site's offices and other areas. This is done to make contractors aware of safe working practices required of them at the particular site or venue. The employees shall be properly inducted through toolbox talks and training.

The event organizer shall plan the arrival of the contractors and ensure that their activities on-site are coordinated. He/she shall also plan the provision of emergency care and welfare facilities for all the role players who will be working on-site, and shall ensure that these facilities are suitable, in sufficient numbers and available from the time that the work begins.

16.4 Pre-production

Before any construction begins, the event organizer shall

a) Identify temporary lay-down areas for contractors' equipment,

b) Show vehicle access positions and temporary roadways for equipment supply,

c) Review and update the safety plan,

d) Agree on any intervention or hold points required by the event organizer,

e) Agree on the necessary inspection, documentation and handover procedures,

f) Prepare a detailed process of identifying, eliminating, mitigating and controlling hazards and risks,

g) Decide on suitable measures to eliminate, mitigate, or control risks, and

h) If necessary, identify an area for handling of fireworks. This includes an area for the preparation, set-up and (if necessary) overnight storage of fireworks.

16.5 Planning for the set-up

The event organizer shall plan and coordinate the safe delivery and installation of all equipment and other related resources that will be used at the event, for example, fire-fighting equipment, stage equipment used by performers, lighting, and a public address (PA) system.

16.6 Planning for the event

The event organizer shall have an effective crowd management, transport management and health and safety policy in place.

The event organizer shall establish an event safety management team with defined fields of responsibility, which could be the elements of the JOC. In order to provide a comprehensive overview of all these planning aspects it is necessary to produce an event safety management plan.

The event safety management plan shall include the following:

a) The event safety policy statement detailing the event organizer chart and the levels of safety responsibility (see 7.2).

b) The event risk assessment (see clause 6) with any review and updates documented.

c) Details of the event including, but not limited to, the venue design, structures, a profile of the attendees, capacity, duration, food, toilets, refuse, fire precautions, emergency medical care, and access and exits.

d) Details of the site safety rules, safety coordination and structural safety.

e) The crowd management and security plan detailing the number of stewards, methods of working, and chains of command. The plan shall also detail the provisions of identification of required processes or services in particular crowd management.

f) The transport and traffic management plan detailing the parking, access and egress arrangements for public as well as for emergency vehicles.

g) The emergency plan detailing action to be taken by designated people in the event of an incident, especially a major incident.

h) Contingency plans detailing the action to be taken when the unscheduled occurs, such as a traffic gridlock delaying the start of the event.

i) The medical plan detailing procedures, resources and personnel required for administering medical assistance on-site and arrangements with local hospitals.

j) A disaster management plan for the coordination of all plans in the event of a disaster or potential disaster.

16.7 Planning for post-event management

The event organizer shall have a plan in place to control risks once the event is over and the infrastructure is being dismantled. Any temporary structures shall be safely dismantled in a controlled manner and shall be removed from the site. Plans shall be made such that they ensure that the same site safety rules apply in relation to managing contractors during this phase of the event.

16.8 Identification of required processes or services

The event organizer shall have a clearly worded formal contract of agreement. The contract shall be concluded between the company and the client before the start of any service and shall be signed by both parties. The contract shall state the terms and conditions under which work is to be undertaken and shall indicate the insured liabilities of the service provider.

16.9 Implementation

The event organizer shall identify a procedure for all processes or services, for example, who will do what, how, where and why. The event organizer shall ensure that all role players know their health and safety responsibilities. The event organizer shall assign responsibilities to the relevant people in terms of their competency, awareness and training.

16.10 Measurement and evaluations

16.10.1 Monitoring

The event organizer shall monitor the planning phases continually to ensure that things are done according to plan.

16.10.2 Audit and review

The event organizer shall strive to improve services or processes to ensure better health and safety conditions at future events. Auditing aims to establish that appropriate safety management arrangements are in place, adequate risk control systems exist and are being implemented. The event organizer shall carry out auditing at the end of every event to ensure that problems are identified in planning and organizing, and that matters that arise during the event are analyzed and corrected for any future event. All role players shall be debriefed and a report shall be submitted.

16.10.3 Monitoring safety performances

16.10.3.1 General

The event organizer shall have systems in place to monitor health and safety performance. To maintain and improve safety performances the event organizer shall use the systems given in 5.10.3.2 and 5.10.3.3 to generate information on safety performances.

16.10.3.2 Active monitoring systems

The event organizer shall perform active monitoring by carrying out inspections of the contractors on-site during the build-up and breakdown and by checking the contractors' safety method statements for carrying out work against their actual work on-site.

Active monitoring systems shall be used to give feedback on safety performances before an incident happens.

16.10.3.3 Reactive monitoring systems

16.10.3.3.1 Reactive monitoring systems are triggered after an accident or incident has occurred. They include identifying and reporting injuries, ill health, and other losses such as damage to property, incidents with the potential to cause injury, and weaknesses or omissions in safety levels.

16.10.3.3.2 Information obtained during inspections as well as a result of incidents or property damage shall be recorded in an event logbook. This logbook shall also be used to keep other records such as weather information, and the information shall be used to audit and review the event later.

16.10.3.3.3 Without information from both systems, it is impossible to assess safety performances against safety levels as described in the safety policy. Therefore, without these monitoring systems no improvements in safety performances can take place during future events.

16.11 The role of the safety coordinator

The event organizer shall have access to competent help in applying the provisions of the relevant national occupational health and safety legislation unless he/she is competent to devise and apply protective measures him/her.

The event organizer shall appoint a competent safety coordinator to assist in compliance with the relevant national occupational health and safety legislation. The event organizer shall ensure that the safety coordinator reports directly to him/her.

Safety coordinators can assist in the following duties:

a) Selection and monitoring of contractors;

b) Liaison with contractors, self-employed people on-site and the local health and safety authorities and their

inspectors;

c) checking of safety method statements and risk assessments;

d) Preparation and monitoring of site safety rules;

e) Checking of appropriate certificates in respect of structures, electrical supplies, etc;

f) Communication of safety information to contractors on-site;

g) Monitoring and coordinating safety performances; and

h) Coordinating safety in response to a major incident.

The safety coordinator shall have access to the safety documentation supplied by the contractors. The safety coordinator shall be available to workers at the beginning of the build-up of the event through to the final breakdown. The safety coordinator shall be a member of the event organizer's event safety management team.

NOTE It is not recommended that event organizers appoint themselves as safety coordinators. To be effective the safety coordinator should not have other competing roles that would inevitably face an event organizer during the event.

17 Venue and site design

17.1 Capacity

17.1.1 The capacity of a venue is generally dependent upon the available space for all on-site and the number of emergency exits. The latter is the subject of a calculation involving the appropriate evacuation rate. The attendees must be able to exit the venue within a span of eight minutes

17.1.2 Part of the site will be taken up by unoccupied structures. The rest of the site will need to be considered when calculating occupant capacity even though a direct view of the activities might not be possible from all locations. If there are any areas where the attendees do not have a reasonable view of the activities, this space shall be deducted from the available area or a lesser density used in the calculations. Areas that could afford partial or total cover to the attendees in the event of inclement weather shall be identified and the effects of attendees' migration to these areas shall be considered.

17.1.3 If the exit capacity is less than the seating capacity, the exit capacity determines the permissible number of people allowed in the venue. However, in other cases a calculation based on the acceptable occupant density shall be used. Generally, 1 m^2 of available floor space per person is used for outdoor events.

17.1.4 The event organizer shall double-check the preliminary occupant capacity calculation and exit requirements once all initial infrastructure requirements and facilities are in place on the site design.

17.2 Exits

17.2.1 The event organizer shall place exits around the perimeter and ensure that they are clearly visible, directly and indirectly by signage. Exit signs shall be free from obstruction on either side.

17.2.2 The number of exits depends directly on the occupant capacity and the calculated evacuation time for the type of structure.

17.2.3 The final exit terminus shall be assessed and shall be as safe as possible, i.e. exit into open spaces or assembly areas, rather than into a main road or into traffic flows.

17.2.4 It is important to examine these exits when carrying out the overall event risk assessment.

Exit gates shall operate efficiently and effectively. Where practicable, separate exits shall be provided for pedestrians and service and concession vehicles. Wheelchair access and egress shall be taken into consideration.

17.3 Venue access

The layout of the access routes depends on the location of facilities. The event organizer shall distribute routes around the site to minimize the traffic load and ensure that the routes do not converge. The routes shall be simple, easy to follow, direct and avoid cross flows. Adequate provision shall be made for access of emergency vehicles.

17.4 Entrances

17.4.1 The event organizer shall ensure that there are enough entrances in order to cope with the peak demand and achieve a smooth and orderly flow of people in and out of the venue. Entry and exit gates must be clearly marked

17.4.2 The event organizer shall ensure that entrances provide space for supervising, marshalling and directing the attendees to the event.

17.4.3 A method shall be in place for calculating the capacity at any given time to ensure that the venue capacity is not exceeded.

17.4.4 At some venues the entrances may be used as exits. At other venues such as football stadiums, the entrances are separate. It might be necessary to provide separate entrances for performers, workers, guests, etc.

17.4.5 The design and location of entrances depend on the number of entrances required, where they are placed and the number of people passing though each entrance.

17.4.6 The direction from which people are likely or permitted to pass through, the maximum number of people from each direction and the flow rate through the entrance are important issues which determine the number of entrances required. For purpose-built venues, the entrances would already have been considered and approved. For temporal venues it is recommended that people be directed.

17.4.7 Flow rates depend on the type, design and width of the entrances and whether searching takes place. The desired entry time is the time taken to allow everyone access to the venue. This will depend entirely upon the type and duration of the event and the profile of the attendees. The possibility of inclement weather might affect the desired time. A queuing system to manage people at the entrance shall be planned and carefully designed. Pre-sales of tickets is recommended.
Otherwise sales points shall be at least 1 km from the outer perimeter.

17.5 Sight lines

The event organizer shall ensure that the attendees have a clear line of vision to the stage to avoid movement towards the centre. The widest possible sight lines help to reduce attendee density in front of the stage and help to minimize surging and the possibility of crushing injuries. The stage width, height and position of PA wings, etc. all affect sight lines. Sight lines shall be designed to create areas of clearer space on the immediate stage left and right to allow movement and emergency access.

17.6 Video screens

If it has been determined by the client that video screens are required, the event organizer shall strategically place video or projection screens to avoid crushing and overcrowding owing to the distance between the stage and the back of the viewing area.

NOTE Screens located at some distance from the stage encourage a proportion of the attendees to use a less crowded part of the site. Screens near the stage can help to stop people pushing towards it.

Screens might require substantial foundations and support, which means that sufficient space for barriers shall be allowed in any site design. A stability certificate shall be provided when required by the safety authorities.

17.7 Seating/standing arrangements

The event organizer should evaluate the possibility of excitement and movement among the attendees in deciding whether to seat them or to allow them to stand. Although an all-seated event helps to reduce crowd surges and crushing at the front of the stage, systems should be put in place to avoid or counteract crowd surges.

If temporary seating is provided, it shall be adequately secured to remain in line with the approved seating plan to avoid tripping hazards. The seating shall be ergonomically designed to fit the purpose of the event.

17.8 Slopes

The event organizer shall ensure full consideration of the effects of any slopes at the venue in his/her risk assessment and appropriate measures to mitigate any slopes. It might be necessary to consider providing exit steps or ramps with non-slip surfaces. The area in front of the stage shall be as flat as possible to prevent tripping and crushing of the attendees.

17.9 Observation points

At some events, observation points might be considered necessary by the client. These shall be strategically placed so as not to hinder the view of the attendees. The event organizer shall establish safe entrances and exits to these observation points.

17.10 Production infrastructure

The production infrastructure will depend on the type, size and duration of the event. Typically, production offices, refreshment facilities, accommodation (for workers and artists), dressing rooms, storage space, equipment, etc., need to be provided, usually backstage. The event organizer shall carefully consider the number of units required, fire hazards, access routes and circulation space, generators, emergency care posts, ambulance, fire and police requirements. The event organizer should try to keep performers' areas separate from production and working areas.

17.11 Fire and medical precautions

The event organizer shall ensure that fire and medical precautions such as the provision of parking areas, emergency care posts, rendezvous points, and triage areas are carefully assessed and that these are positioned in the appropriate places.

The event organizer shall design the site so that these areas are readily accessible and can be easily identified. Fire appliances shall be able to access all parts of the site and be able to reach within 50 m of any structure. The event organizer shall establish emergency access routes around the venue that are kept clear at all times. Temporary track-ways might be implemented or made where there is wet or difficult ground. Event organizers shall provide separate gated entrances and exits, of sufficient height and width, for emergency vehicles.

17.12 Site worker

For large events a significant number of workers will be on-site and will need their own facilities such as catering, toilets, showers, offices and sleeping accommodation. Such facilities shall be sited or situated away from the

main attendee area. The event organizer shall carefully plan such requirements to incorporate them safely into the site design.

17.13 Hospitality area

The level of hospitality will vary according to the size and profile of the event. Accommodation and facilities might be provided for only a few people who require no more than a small meeting area through to very large sophisticated complexes catering for several thousands of people. Marquees and viewing platforms might be required. The exact requirements need to be planned and incorporated into the overall site and venue design. Often such large numbers are forgotten in the capacity calculations but they need to be included.

17.14 Noise considerations

The overall site design and layout shall be such that it maximizes the attendees' view and protect neighbours from noise nuisance.

The event organizer shall consider the stage location and other sound sources, in relation to nearby noise-sensitive properties and the topography of the site. The event organizer shall use slopes and natural barriers to their maximum effect. A distributed sound system suspended from delay towers might be used where it will be more advantageous. The event organizer shall carefully consider the sitting and construction of such towers to control sight lines, avoid crushing points and prevent unauthorized viewing of the performance.

17.15 Catering and merchandising

The event organizer shall position catering and merchandising concessions away from access routes in less densely occupied areas of the venue.

Some units will have highly flammable products such as liquid petroleum gas (LPG) and require careful positioning. Pathways shall not be obstructed by circulation space and potential queuing arrangements.

17.16 Front-of-stage barriers

A front-of-stage barrier shall be installed where significant attendee pressure is expected, and shall be agreed upon between the client, the event organizer and relevant stakeholders. The risk assessment for the event, relating to the evaluation of the performer and profile of the attendees, together with the capacity, will assist in determining whether or not one is required and if so what type and design is required. For most large events, some form of front-of-stage barrier will be necessary.

17.17 Signage

Signage shall be clearly visible and easily understood. Signs in dark areas shall be lit. The effective use of signs provides a rapid way of conveying orientation, directions and emergency information. It therefore assists in attendee flow.

From a site-design perspective, the size and position are very important. Large outdoor venues will require signage larger than usual so that it can be seen from a distance. Sign fixing points such as scaffold towers might be constructed if needed. Safety signs shall comply with the relevant national occupational health and safety legislation.

17.18 Public facilities

17.18.1 Sanitary facilities

Sanitary facilities shall be distributed around the site in a manner that does not block sight lines and serves the greatest need, for example, near bars and catering concessions. If sanitary facilities are portable, access for emptying their tanks shall be planned. These facilities shall be clearly visible and well signed. Queuing areas shall not obstruct any gate, emergency route, etc. Water supply is normally situated next to sanitary facilities. If tankers are used, the space requirement and ground drainage shall be considered.

17.18.2 Welfare and information points

The event organizer shall locate welfare and information points in less noisy parts of the site.

17.19 Excess patrons

Contingency arrangements shall be made to cope with excess patrons to an event. Measures might necessitate the design of a holding and queuing area and related facilities, which need to be accommodated within the design. Staggered or phased access to the venue shall be considered. An alternative venue for overflow should be considered.

17.20 Final site design

Once all the necessary details and requirements have been finalized each design shall be drawn to scale on a site plan in relation to spacing requirements. The final plan shall then be reassessed to check the occupant capacity (in relation to sight lines and circulation space) and emergency services, worker and attendee entrances and exits. This final plan shall be approved by the local authority

17.21 Sports stadiums

17.21.1 The event organizer shall provide a sports stadium with adequate emergency exits from the normal spectator areas. However, additional exits might be needed if the pitch area is to be occupied by the attendees and by temporary structures, such as a stage or stands. If the pitch area has a perimeter fence, provision shall be made for a 1, 8 m opening at intervals of not more than 25 m.

17.21.2 If a sports stadium is to be used, the event organizer shall ensure that there are adequate emergency exits from all areas and shall consult the fire and local authorities regarding these exits at an early stage.

17.21.3 All access gates must be able to be opened or closed quickly without causing any danger. The gates shall be designed to withstand pressure from large crowds of people. When open, the gates must be firmly secured. The gates must also be equipped with fireproof locks.

All entry points must be equipped with facilities for searching persons and examining objects, and for storing objects securely.

Turnstiles and checkpoint facilities may be incorporated within the perimeter wall enclosing the stadium.
The event's organizer must adhere to the rules and regulations set out at the stadia and sports venues.

18 Refreshments

18.1 Food safety

The event organizer shall ensure that there is safe delivery, storage, preparation and sale of food that comply with food safety regulations and that are signed off by the environmental health Authority. Certified by the public health Department

18.2 Drinking water

The event organizer shall provide a supply of drinking water within easy access of the attendees and all catering operations. Public health recommends the minimum of 3 liters per person per day in temperate zones and 6-10 liters in hot climates.

Free drinking water that is accessible to the attendees at sufficient points shall be provided at all events, especially at open-air concerts and dance events, owing to the volume of people, confined conditions and the weather.

All water points shall

a) Have unobstructed access,

b) Be clearly marked, and

c) Be clearly lit at night if the event continues after dark.
Generally, all water shall be provided from a mains supply, but if this is not possible then boozers are permissible, provided that they are suitable for the purpose. All water dispensing equipment shall be clean, well maintained and suitable. It is considered good practice to sample and test temporary water supplies for quality, quantity and safety bacteriological safety, especially those provided at outdoor events.
Drinking water shall comply with the Kenya Water safety law Cap 242.

18.3 Alcohol and bar area

Alcohol falls under the definition of foodstuffs. The use and selling of alcohol shall comply with the requirements of the relevant national legislation on food safety, catering and hygiene (see foreword) and also regional and municipal regulations and by-laws.
The event organizer shall ensure that

a) The structure used for the selling of alcohol, usually marquees or tents, complies with structural requirements.

b) The operation is designed to allow the free flow of people to and from the bar areas to prevent congestion and crushing hazards (this might involve the use of suitable barriers, provided that consideration has been given to the barriers becoming a hazard in themselves),

c) Electrical installations comply with relevant legislation,

d) Suitable and sufficient lighting is provided,

e) Risk assessments for food and health and food safety and handling shall be conducted are have been carried out,

f) Carbon dioxide cylinders are suitably secured,

g) Chemicals to clean pipelines are appropriately handled and stored,

h) The type of drinking containers shall comply with any site/event specifications. For example, a no-glass policy could be followed, where no cans and bottles, including plastic bottles, are sold at events, and only paper or plastic cups are used,

i) There is a suitable means of disposal for glass bottles or any container used to decant drinks before serving,

j) bar areas are kept free of litter and the floors are cleared of spillages, and

k) If a token system is used instead of cash, the "change areas" need to be separate from the bar service area.

18.4 Pit area [rest and hydration area]

The event organizer shall ensure that there is an adequate supply of drinking water points in the pit area, together with an adequate supply of plastic or paper cups. The number of drinking water points will be determined by the risk assessment.
If storage containers are used to supply water, they should be of sufficient capacity and number for the anticipated needs of the attendees within the first 5 m of the pit barrier. Pit area water points shall not be within the reach of the attendees.

18.5 Drainage

Suitable drainage that complies with by-laws shall be provided for the catering and the wash-up area. Drainage shall not cause ecological damage.
The ground surrounding all water points shall be well drained or provision shall be made to "bridge" any flooded areas.

Drainage shall be discharged to a sewer or a suitable temporary collection point for later disposal. No grey water shall be discharged into the environment. Any disposal other than directly into the sewer shall be approved by the local authority. (In line with new constitution)

19 Amusements, attractions and promotional displays

19.1 When the event organizer wishes to include amusement activities at the event, he/she should obtain the required safety information about the activities from the operator. This is to ensure that the sitting and operation of the amusement does not

a) Compromise safety in relation to the overall risk assessment for the event,

b) Block the emergency access routes, or

c) Cause attendee congestion problems.

19.2 The event organizer shall consider the following points when incorporating any amusement activity as part of the overall entertainment:

a) Advice shall be obtained from the operator about the particular hazards associated with the amusement activity or attraction, and copies of the operator's own risk assessment and safety information shall be requested. The information shall be incorporated into the overall risk assessment for the event.

b) Advice shall be obtained from the relevant enforcement authority about the particular amusement activity. Local authority officers and inspectors shall have up-to-date information concerning hazards that have been reported about a particular amusement activity.

c) The event organizer shall check the competence of the operator against the following criteria:

1) If the operator is able to demonstrate compliance with the relevant national health and safety legislation (see foreword);

2) if the operator is a member of a professional body ;(city by laws)

3) If the operator has current insurance;

4) If the operator has a current certificate of a thorough examination from an inspection body;

5) Is the operator experienced in operating the amusement activity; and

6) What safety information can the operator supply in relation to the amusement activity?

d) Information concerning the safe operation of the amusement activity should also be given to other contractors working at the event who might be affected. The power type and closest distribution point shall be considered when approving and sitting the activity.

e) Appropriate setting-up times, operating times and dismantling times shall be determined.
Amusements should be set up before the attendees enter or approach the event. The amusement equipment shall not be dismantled until all attendees have left or are at a safe distance. Vehicle movements are often prohibited during events and amusement operators shall be informed about this policy.

f) Suitable space shall be allocated for the amusement activity. Space is one of the most important considerations for any amusement activity. This does not just include space on the ground but often space

above. Obstacles such as large trees, overhead-cables and power lines can cause major hazards. The sides and rear amusement equipment might need barriers to prevent the attendees from being exposed to hazardous parts of the equipment.

g) When planning the positioning of the amusement activity, emergency access routes as well as space for the attendees who might be queuing for the amusement activity shall be taken into account. Space might be needed for family, friends and others to comfortably watch the amusement activity.

h) The main event and other amusement activities shall be so coordinated that the attendees remain well managed.

i) Availability of natural light might also be an important safety factor in the operation of some amusement activities, particularly where colour-dependent safety features are used.

j) Promotional displays in or around an event shall be properly secured to prevent them from being dislodged by adverse weather conditions.

20 Sanitary facilities

20.1 Sanitary facilities for attendees

The event organizer shall make provision for adequate sanitary facilities for the event detailing the number, placement, maintenance and sewage disposal of the units, for the expected number and movement of the attendees and event workers. Provision shall also be made for people with disabilities where these have been identified.

Toilets shall be readily visible, lit, and clearly signed from all parts of the venue. The areas and, where appropriate, the individual sanitary units, shall be adequately lit at night and during the day, if required. The recommended minimum lighting level is 100 lux for general toilet areas and 200 lux for wheelchair-accessible toilets.

Toilets shall be regularly maintained, repaired and serviced throughout the event by using suitably experienced and competent workers to ensure that the toilets are kept safe, clean and hygienic.

Toilets shall be supplied with adequate toilet paper, in a holder or dispenser at all times.

Arrangements shall be made for the rapid clearance of any blockages.

Temporary mains units can be used if a sewer, drain, septic tank, or cesspool is available, provided that an adequate water supply and adequate water pressure are available. Re-circulating self contained units are not reliant on the availability of drains or water services. Provision shall be made for servicing vehicles and safe access.

General guidelines for the provision of toilet facilities for a music event are given in table 3. These guidelines might be too high for short-duration/"non-peak" events, such as country fairs and garden parties, or too low for events with high levels of fluid consumption or for camping events.

Table 1 – number of toilet facilities

1	2	3	4
For events with a gate opening time of 6h or more		**For events with a gate-opening time of less than 6h**	
Female attendees	**Male attendees.**		

One toilet per 100 female attendees	One toilet per 500 male attendees, plus one urinal per 150 male attendees	One toilet per 120 female attendees	One toilet per 600 male attendees, plus one urinal per 175 male attendees

The provision of sanitary facilities shall also relate to the expected number of people with disabilities attending the event. It is suggested that one toilet with hand-washing facilities be provided per 75 people with disabilities.

NB: Consider cultural and religious factors for acceptability and use of facilities by the attendees

20.2 Sanitary facilities for event workers

The relevant national health and safety legislation (see foreword) requires that suitable and sufficient toilets and washing facilities be provided at workplaces.

Sanitary accommodation for use by event workers shall be located near the work areas and, in particular, near the control tower drainage and the mixer tower, and next to the catering areas, car parks, the emergency care areas, and welfare and children's areas. Proper hand-washing facilities shall be provided for food handlers. Adequate separation (toilets and food or male/female) is required. Toilets shall be sited down wind. Local health authorities shall approve the sitting.

21 Waste management

The event organizer shall identify the type of waste that is likely to be generated, hazards posed by the waste, and methods of collection and disposal having due regard for appropriate by-law requirements.
A waste management plan should be developed for the event. This plan should identify the types, volumes, hazardous nature of waste, temporary storage facilities and location, and methods of collection and disposal. It should also embrace the philosophy of water reduction, re-use and recycling.
Medical waste shall be disposed of by medical personnel in accordance with the relevant national/local authority's best practice.

22 Sound, noise and vibration

Employees shall be protected against exposure to continuous high-sound pressure and noise levels. It is recommended that hearing protection be made available to employees for continuous noise levels above 85 db. The event organizer is ultimately responsible for the provision and use of hearing protection by all workers on site.
Any event shall comply with local authority requirements for surrounding ambient noise levels and after-hours noise.
Where practicable, attendees shall not be allowed within 3 m of any loudspeaker. This can be achieved by the use of approved safety barriers and dedicated stewards who are wearing appropriate ear protection. Under no circumstances shall the attendee and loudspeaker separation distance be less than 1 m.
A structural engineer is required to check the noise impact and noise vibration (exciting frequency) on all temporary structures. Consideration shall be given to the type of event (such as a rock show, opera and orchestral performance). Cognizance shall be taken of the exciting frequency on any permanent structures that may be affected.

23 Barriers

23.1 General

Barriers at events serve several different purposes. They can provide physical security, as in the case of a high perimeter fence at an outdoor concert, or be used to prevent the audience climbing on top of mixer towers, etc. They can also be used to relieve and prevent the build-up of audience pressures, for example, a properly constructed front-of-stage barrier enables those suffering physical distress to be reached and helped more easily.

Barriers will always be subject to loading and shall therefore be designed to withstand right angle and parallel loads in line with the probable pressures. Account shall be taken of the nature of the loading, for example, surging.

NOTE Where barriers are used two risk assessments are needed. The first assessment identifies the need for barriers and the second assessment evaluates the risks created by barriers.

23.2 Front-of-stage barrier

The event organizer shall assess whether a front-of-stage barrier is needed and what form it should take. If audience pressure is anticipated a front-of-stage barrier shall be installed. Factors to be taken into account include audience density, the likely behavior and size of the audience and the nature of the venue. For most concerts, some form of front-of-stage barrier will be required.

Audience pressure is normally greatest at the front-of-stage barrier. If the audience surges, dynamic loads might be considerable, but such pressure is momentary and has to date not been identified as the cause of serious injury. Audience pressure might cause fainting and exhaustion that might necessitate first-aid treatment and that are often aggravated by other factors such as heat, alcohol abuse and hysteria. However, there is a risk that the audience might "collapse" due to surging or heaving motions near the front of the stage, resulting in people falling to the ground and being trampled and perhaps asphyxiated. A suitably designed and constructed barrier arrangement can help to reduce the risk of collapse.

NOTE Studies have shown that asphyxia is a leading cause of death in crowd crush disasters. Asphyxia is due to prolonged pressure on the body and happens mostly to women and children.

23.3 The pit

The pit is the area between the stage and the front-of-stage barrier and shall be designed to assist the work of stewards and emergency care practitioners. An important role of stewards is to extract members of the audience who are in distress. The pit shall have a non-slip unobstructed working area behind the barrier that is large enough to allow persons in the pit to lift members of the audience into the pit. Some form of raised platform inside the barrier can enable stewards and other officials to oversee the audience and identify anyone in distress. Entrances or exits from the pit shall be unobstructed to allow stretcher-bearers clear access to a medical or first-aid point away from the pit area. Pit exits shall be at least 1,1 m wide.

The pit area shall be kept clear of anyone other than stewards and emergency care practitioners. Any arrangements for TV film crew or photographers to work in the pit area shall be planned to ensure that their activity will not interfere with the work of stewards or first-aid staff.

A concert that is held "in the round" with a standing audience requires special arrangements for a pit area. The provision of an unobstructed escape corridor enables members of the audience to be lifted over the barrier and to be led away from the pit. However, care needs to be taken to avoid creating a point where people can be trapped between the escape corridor and the barrier. A method shall be planned to enable people to return to the arena after having been lifted into the pit.

23.4 Construction of front-of-stage barriers

Modern barrier systems rely on a tread plate at the front to maintain their stability. They are normally free-standing but if used outdoors they might be fixed to the stage structure with couplers. Fixing by couplers is only appropriate if the stage is designed to resist the imposed lateral load.

All barriers shall be designed to comply with the necessary loadings. Checks shall be made by a competent person to ensure that, when erected, the barrier complies with the design criteria.

To prevent injuries barriers shall be smooth with no rough edges, protruding edges or trapping points for feet and hands, especially when under load.

Barriers fitted with a tread plate or floor panel shall have a ramped approach or any similar arrangement to reduce the risk of tripping.

There shall be a reasonable distance between the front-of-stage barrier and the edge of the stage. Under no circumstances shall it be less than 1 m and should often be considerably more for outdoor events.

The distance shall be determined by the risk assessment. The calculations shall be done by a competent person.

23.5 Shape of front-of-stage barriers

If a venue has restricted space, a straight barrier is suitable. However, for large concerts, particularly those outdoors, a convex barrier extending towards the audience might be preferable. In such circumstances, the barrier shall consist of short, straight sections installed at angles to one another to form a curve across the main performance area, extending to the ends of the side stages. It shall be erected in conjunction with escapes to the right and the left of the stage. Concave stage barriers shall not be used as people could be trapped between a curved barrier and a straight barrier. The risk assessment will determine the most appropriate barrier to be used.

A curved barrier can provide the following additional safety benefits:

a) Dissipation of audience surges away from the centre of the stage;

b) Assistance in emergency exits;

c) Provision of a wider front row sightline;

d) Improved performer safety by placing a greater distance between the stage and the barrier, therefore making it difficult for members of the audience to reach the stage; and

e) Provision of a wider area for stewards and first aiders to operate within the pit.

23.6 Barrier around thrusts

A thrust is a section of the stage, which projects from the main body of the stage towards the audience. Where thrusts extend towards the audience, a barrier shall be provided that complies with the design criteria and loading factors for a front-of-stage barrier. It is advisable to construct a thrust in such a way that it does not create poor sight lines. Care shall be taken to ensure that such stage designs do not result in concave trapping points from which audience members cannot escape.

With less conventional venue layouts that have in-the-round stages, “B” stages (a second stage)and other satellite performance spaces, it is important to design the barrier systems to avoid penning people in and creating trapping points.

23.7 Multiple-barrier systems

For large events, it might be possible to use a multiple-barrier system (i.e. double or triple barriers in front of the stage). If such a system is required, arrangements for emergency evacuation shall be agreed upon with the relevant authorities. Multiple-barrier systems are not suitable for all venues; for instance, controlled side escapes might be difficult to incorporate in some venues. Penning of audiences in flat, open areas by means other than the systems described below might also create difficulties in evacuation and is considered unsafe.

Where multiple-barrier systems are used, the barriers shall form a convex curve towards the audience with exits at both ends. The provision of a corridor or area behind each curved barrier will give stewards and first aiders' adequate access to the audience along the length of the barriers.
Multiple-barrier systems shall comply with the required minimum loading.

With a very enthusiastic audience, it is likely that many of the problems normally encountered at the front-of-stage barrier will be experienced at the barrier furthest from the stage. It is therefore essential that adequate numbers of emergency medical personnel and stewards be provided. However, because of the wider sight line potential (75 % in some cases) and the increased distances from the stage, the incidence of audience surge and crushing might be reduced. The risk assessment will determine the type of barrier to be used.

24 Planning for electrical installations and lighting

24.1 Electrical installation and lighting

When the event organizer provides electrical facilities, they shall be installed in accordance with SANS 10142-1.

The event organizer shall establish adequate lighting levels by means of a risk assessment (see clause 6) and shall provide lighting. In many circumstances the electrical supply might be of a temporary nature, but this does not mean that it can be substandard or of an inferior quality to a permanent installation. Only a competent electrician shall carry out electrical work.

24.2 Planning

The event organizer shall consider the following factors when planning the electrical installation:

a) The location of any existing overhead power lines or buried cables;

b) The total power requirements for the site;

c) Access to a network power supply;

d) The use of generators;

e) Earthing;

f) Positioning of temporary overhead or underground cables;

g) The location of the stages;

h) the main isolators that control the electrical supplies to the stage lighting, sound, special effects, emergency lighting, and lifting equipment;

i) The location of mixer positions etc.;

j) Special power supplies for some equipment, for example, equipment from the USA that operates on 117 VAC nominal, 60 Hz;

k) Power supplies required for hoists, portable tools, etc.;

l) The electrical requirements for emergency lighting and exit signs;

m) power supplies for catering equipment, emergency care points, incident control rooms, CCTV cameras, etc.;

and

n) Power supplies for heating or air conditioning.

24.3 Installation

The main electrical intake and generator enclosure shall be located where it is accessible for normal operations or emergencies, but segregated from the public areas of the venue. Danger warning signs shall be displayed around the intake or enclosure.
Cable runs from generators shall be carefully planned and monitored so that they do not obstruct the safe movement of people, and that cables are not exposed to damage from vehicles, fork-lifts trucks, etc.
All electrical equipment that might be exposed to the weather, for example, consumer units and distribution boards, shall be protected by means of suitable and sufficient covers, enclosures or shelters. As far as practicable, all electrical equipment shall be located so that it cannot be touched by members of the public or unauthorized workers.

On completion of the electrical installation it shall be inspected and tested in accordance with SANS 10142-1 and the procedures laid down in the relevant national health and safety legislation (see foreword) and electrical and construction regulations. A certificate of compliance shall be issued by a competent person after a load test has been done and a load shedding plan has been developed.

24.4 Cabling

Temporary overhead cables, whether they are carrying mains voltage, communication, or television signals, shall be securely fixed or supported by a catenaries' wire. The catenary wire and cables shall be placed out of reach of members of the public. The catenaries' wire shall be bonded to the earthing system of the cable supported. The cables shall be suspended from the catenaries' wire by means of suitable hangers spaced at regular intervals to provide adequate support to the cable. Advisory notices warning of the location of the overhead cables and the voltage being carried shall be clearly displayed.

If it is necessary to run cables underground, cables shall be placed far enough underground to protect against

a) Crushing by vehicles,

b) Damage by machinery, equipment or tools, and

c) Other mechanical damage (for example, damage by members of the public).

If cables have to be run on the surface they shall be protected against sharp edges or crushing by heavy loads, for example, by covering them with ramps or rubber mats. Ramps shall be conspicuously marked to avoid tripping hazards.

24.5 Electricity utility and cables

Overhead or underground electricity supply cables belonging to an electricity supply company might cross the site, or its access roads. If this is so, precautions shall be taken to avoid danger from these cables.

Overhead cables and cable bridges shall have adequate clearance to allow safe access to vehicles.

Emergency and abnormal-height vehicles shall be taken into account.

24.6 Access to electrical equipment

The event organizer shall ensure that there is a clear working space to allow access to

a) Control switches and equipment,

b) Amplification equipment,

c) Special effects equipment,

d) Follow spots,

e) Dimmers, and

f) high-voltage discharge lighting, such as neon lighting.

The main control equipment and items specified above shall be clearly identified, and their locations marked on a plan to be located in the incident control area.

Switchgear shall be protected to prevent access by unauthorized people. Where switchgear is installed in a locked enclosure, specific personnel shall be appointed to operate the equipment to comply safely with any request made by the emergency services.

24.7 Generators

If generators are to be used, their location and accessibility for refueling purposes shall be planned. Storage of the fuel and accessibility for further fuel deliveries shall be taken into account.

The generator and its fuel shall not be accessible to members of the public or other unauthorized people and should be fenced. If the venue is located close to a residential area the noise-levels factor shall be taken into account. If this is excessive, silenced generators shall be used.

It is important that the earthing of mobile generators for outdoor events be carefully considered and carried out.

The correct mains isolation systems shall be in place where generators are used.

24.8 Electricity to the stage area and effects lighting

The electricity supply to the stage shall be controlled by a switch or switches and installed in a position accessible at all times to authorized people.

Sufficient fixed socket outlets shall be provided within the stage area to avoid using flexible extension leads and multi-socket outlets, where possible. Fixed socket outlets can be either permanent or on properly mounted temporary distribution boards. It is also recommended that equipment be located within 2 m of a fixed socket outlet to avoid needing long trailing leads.

Any lantern or other suspended lighting equipment shall have a suitable safety chain or safety wire fitted. The weight of any flown lighting equipment shall not exceed the SWL of the securing points.
No flown or suspended equipment, including lighting bars and amplification equipment shall rely solely on one suspension cable, clamp or bolt. Each means of suspension shall be secured to independent fixing points on the flown equipment and the structure.

If lighting equipment and other apparatus likely to reach high temperatures are located close to scenery and other combustible materials, the necessity of guarding to prevent fire shall be assessed.

24.9 Normal lighting circuits

All parts of an outdoor venue shall, unless not intended to be used in the absence of adequate daylight, be provided with suitable levels of artificial light. The lighting of the emergency medical centre, information

area/marquees, and pedestrian access to car parks, car park areas, toilets, and access routes to public highways shall be planned.

24.10 Emergency lighting circuits

In addition to the normal lighting arrangement, emergency lighting shall be provided as determined by the general risk assessment and the fire-risk assessment. These assessments shall cover all possible hazards associated with the venue, for example, pits, holes, trenches and ditches. The provision of emergency lighting within generator enclosures, the main electrical in-take, or main area of isolation shall be taken into account. The emergency lighting supply shall be provided from a source of electricity independent of that of the normal lighting. The emergency lighting shall be of a maintained type (continuously lit), which includes the exit signs located around the venue for directional purposes, and located above the final exit doors. The emergency-lighting arrangements and all exit signs throughout the venue shall be in accordance with the relevant national health and safety legislation (see foreword) and electrical and construction regulations.

Any source of supply used for providing emergency lighting shall be capable of maintaining the full light load as determined by the event risk assessment and the major incident plans prepared for the event, in case of a mains failure. It is important to keep any battery used for this purpose in a fully charged condition whenever the venue is in use.

24.11 Management of lighting circuits

The normal and emergency lighting systems shall be installed so that a fault or accident arising in one system cannot jeopardize the other systems. Suitable provision shall be made to enable repairs to be undertaken if a part of these lighting systems fail. Both the normal lighting circuits and emergency lighting circuits, including generators, shall be protected from acts of vandalism.

Dimming equipment shall be located in an approved position, and shall be under the continuous supervision of a competent person when the venue is open to members of the public.

24.12 Lighting levels for emergency exits

All parts of the venue to which people have access shall be provided with normal and emergency lighting, capable of giving sufficient light for people to leave safely as determined by the risk assessment. Additional emergency lighting that operates in a maintained mode to the gangways passing through temporary seating structures shall be provided. For stairways, gangways/corridors, exit doorways, gates, etc, the average lighting level shall be 20 lux and the minimum shall be 5 lux.

24.13 Portable electrical appliances

Portable electrical equipment is defined as equipment that is not part of a fixed installation but is, or is intended to be, connected to a fixed installation or a generator by means of a flexible cable and either a plug and socket or a spur box, or similar means. Any person that might bring portable electrical equipment onto the site shall be able to demonstrate that the electrical equipment is maintained correctly and has been subjected to routine inspection and testing

25 Safety planning for an event

25.1 Feasibility study

The evaluation of an intended site for an event shall include factors such as the suitability of the venue for the type and size of event, liaison with the venue owner, reference erection of the structure and duration of the event, local authority contact reference plans (site or floor plans) and approvals required.

The event organizer shall prepare a plan which shall include the venue layouts, selection of competent personnel, selection of contractors and subcontractors, the design of temporary structures and fencing, etc.

The feasibility study shall include the following:

a) Preparation of a site development (or venue layout) plan indicating all temporary and permanent structures. The plan shall show the location of structures such as stages, barriers, emergency routes, exit and entry points, position of toilets, medical facilities and the location of the operations management (i.e. a JOC).

b) Approval of a site plan for fireworks and pyrotechnics

c) Ensuring that any structure, for example, stages, seating stands and tents that will be used at the event are structurally safe during erection and use.

d) Requiring contractors to provide copies of their own health and safety policies and details of any hazards and risks associated with their work, before the build-up begins.

e) Requiring contractors to furnish proof of their compliance with the relevant national occupational health and safety regulations related to the services they provide at the event.

f) Obtaining documents and calculations in relation to the stages, seating and other temporary demountable structures, and engineers' certificates. These plans, documents, calculations and certificates will be required when discussing the event with health and safety inspectors and the local authority.

g) Obtaining the relevant permits before any erection or construction work for the event takes place.

25.2 The planning phases of an event

The planning phases for an event comprise the following:

a) **The build-up,** which involves planning of the venue design, selection of competent workers, selection of contractors and subcontractors, construction of the stages, marquees, fencing, etc.

b) **The load in,** which involves planning for the safe delivery and installation of equipment and services that will be used at the event, for example, stage equipment used by the performers, lighting, and public address (PA) systems.

c) **The show,** which involves planning of effective crowd management strategies, transport management strategies and health and safety arrangements. Planning strategies for dealing with, emergency care, contingencies and major incidents are important.

d) **The load out,** which requires planning for the safe removal of equipment and services.

e) **The breakdown,** which includes planning to control risks such as those related to the collection of rubbish and the disposal of wastewater once the event is over and the infrastructure is being dismantled.

25.3 Planning for the build-up

25.3.1 The event organizer shall prepare plans that show the location of the stages, barriers (including barriers of at least 50 m from the firing point of fireworks and 3 m from the firing point of stage and theatrical pyrotechnics), front-of-house towers, delay towers, entries and exit points, emergency routes, emergency care and triage areas, toilets, merchandising stalls, etc.

25.3.2 It might be necessary to obtain plans of existing premises on which the event is to be held from the owner, occupier or venue manager. Copies of these plans might need to be given to the contractors who are building the infrastructure to ensure correct positioning of the various structures to be used at the event. These plans shall indicate all concealed and underground services in order to ensure safe access and exit and to

reduce the risk of damage.

25.3.3 The event organizer shall ensure by complying with 7.2.3(a), (b) and (c) that any infrastructure, such as stages, seating, tents, marquees or other structures, will be erected safely structurally safe once erected and in use.

25.3.4 The event organizer shall request contractors and subcontractors to provide copies of their own health and safety policies, and details of any hazards and risks associated with their work, before the build-up begins. Documents and calculations will also be required in relation to the stages, seating or other temporary demountable structures. These policies, documents and calculations will be required when discussing the event with OHS inspectors and officers of the local authority and the emergency medical services.

25.3.5 The event organizer shall draw up a set of site safety rules and communicate these rules to the contractors before or as soon as they arrive on-site. These rules can be posted in the form of signs in the site's offices and other areas. This is done to make contractors aware of safe working practices required of them at the particular site or venue. The employees shall be properly inducted through toolbox talks and training.

25.3.6 The event organizer shall plan the arrival of the contractors and ensure that their activities on-site are coordinated. He/she shall also plan the provision of emergency care and welfare facilities for all the role players who will be working on-site, and shall ensure that these facilities are suitable, in sufficient numbers and available from the time that the work begins.

25.4 Pre-production

Before any construction begins, the event organizer shall

a) Identify temporary lay-down areas for contractors' equipment,

b) Show vehicle access positions and temporary roadways for equipment supply,

c) Review and update the safety plan,

d) Agree on any intervention or hold points required by the event organizer,

e) Agree on the necessary inspection, documentation and handover procedures

f) Prepare a detailed process of identifying, eliminating, mitigating and controlling hazards and risks,

g) Decide on suitable measures to eliminate, mitigate, or control risks, and

h) If necessary, identify an area for handling of fireworks. This includes an area for the preparation, set-up and (if necessary) overnight storage of fireworks.

25.5 Planning for the set-up

The event organizer shall plan and coordinate the safe delivery and installation of all equipment and other related resources that will be used at the event, for example, fire-fighting equipment, stage equipment used by performers, lighting, and a public address (PA) system.

25.6 Planning for the event

The event organizer shall have an effective crowd management, transport management and health and safety policy in place.

The event organizer shall establish an event safety management team with defined fields of responsibility, which could be the elements of the JOC. In order to provide a comprehensive overview of all these planning aspects it is necessary to produce an event safety management plan.

The event safety management plan shall include the following:

a) The event safety policy statement detailing the event organizer chart and the levels of safety responsibility.

b) The event risk assessment with any review and updates documented.

c) Details of the event including, but not limited to, the venue design, structures, a profile of the attendees, capacity, duration, food, toilets, refuse, fire precautions, emergency medical care, and access and exits.

d) Details of the site safety rules, safety coordination and structural safety.

e) The crowd management and security plan detailing the number of stewards, methods of working, and chains of command. The plan shall also detail the provisions of identification of required processes or services in particular crowd management.

f) The transport and traffic management plan detailing the parking, access and egress arrangements for public as well as for emergency vehicles.

g) The emergency plan detailing action to be taken by designated people in the event of an incident, especially a major incident.

h) Contingency plans detailing the action to be taken when the unscheduled occurs, such as a traffic gridlock delaying the start of the event.

i) The medical plan detailing procedures, resources and personnel required for administering medical assistance on-site and arrangements with local hospitals.

j) A disaster management plan for the coordination of all plans in the event of a disaster or potential disaster.

25.7 Planning for post-event management

The event organizer shall have a plan in place to control risks once the event is over and the infrastructure is being dismantled. Any temporary structures shall be safely dismantled in a controlled manner and shall be removed from the site. Plans shall be made such that they ensure that the same site safety rules apply in relation to managing contractors during this phase of the event.

25.8 Identification of required processes or services

The event organizer shall have a clearly worded formal contract of agreement. The contract shall be concluded between the company and the client before the start of any service and shall be signed by both parties. The contract shall state the terms and conditions under which work is to be undertaken and shall indicate the insured liabilities of the service provider.

25.9 Implementation

The event organizer shall identify a procedure for all processes or services, for example, who will do what, how, where and why. The event organizer shall ensure that all role players know their health and safety responsibilities. The event organizer shall assign responsibilities to the relevant people in terms of their competency, awareness and training.

25.10 Measurement and evaluations

25.10.1 Monitoring

The event organizer shall monitor the planning phases continually to ensure that things are done according to plan.

25.10.2 Audit and review

The event organizer shall strive to improve services or processes to ensure better health and safety conditions at future events. Auditing aims to establish that appropriate safety management arrangements are in place, adequate risk control systems exist and are being implemented. The event organizer shall carry out auditing at the end of every event to ensure that problems are identified in planning and organizing, and that matters that arise during the event are analyzed and corrected for any future event. All role players shall be debriefed and a report shall be submitted.

25.10.3 Monitoring safety performances

25.10.3.1 General

The event organizer shall have systems in place to monitor health and safety performance. To maintain and improve safety performances the event organizer shall use the systems given in 5.10.3.2 and 5.10.3.3 to generate information on safety performances.

25.10.3.2 Active monitoring systems
The event organizer shall perform active monitoring by carrying out inspections of the contractors on-site during the build-up and breakdown and by checking the contractors' safety method statements for carrying out work against their actual work on-site.

Active monitoring systems shall be used to give feedback on safety performances before an incident happens.

25.10.3.3 Reactive monitoring systems

25.10.3.3.1 Reactive monitoring systems are triggered after an accident or incident has occurred.
They include identifying and reporting injuries, ill health, and other losses such as damage to property, incidents with the potential to cause injury, and weaknesses or omissions in safety levels.

25.10.3.3.2 Information obtained during inspections as well as a result of incidents or property damage shall be recorded in an event logbook. This logbook shall also be used to keep other records such as weather information, and the information shall be used to audit and review the event later.

25.10.3.3.3 Without information from both systems, it is impossible to assess safety performances against safety levels as described in the safety policy. Therefore, without these monitoring systems no improvements in safety performances can take place during future events.

25.11 The role of the safety coordinator

The event organizer shall have access to competent help in applying the provisions of the relevant national occupational health and safety legislation (see foreword) unless he/she is competent to devise and apply protective measures him/her.

The event organizer shall appoint a competent safety coordinator to assist in compliance with the relevant national occupational health and safety legislation (see foreword). The event organizer shall ensure that the safety coordinator reports directly to him/her.

Safety coordinators can assist in the following duties:

a) Selection and monitoring of contractors;

b) Liaison with contractors, self-employed people on-site and the local health and safety authorities and their inspectors;

c) checking of safety method statements and risk assessments;

d) Preparation and monitoring of site safety rules;

e) Checking of appropriate certificates in respect of structures, electrical supplies, etc.;

f) Communication of safety information to contractors on-site;

g) Monitoring and coordinating safety performances; and

h) Coordinating safety in response to a major incident.

The safety coordinator shall have access to the safety documentation supplied by the contractors.
The safety coordinator shall be available to workers at the beginning of the build-up of the event through to the final breakdown. The safety coordinator shall be a member of the event organizer's event safety management team.

NOTE It is not recommended that event organizers appoint themselves as safety coordinators. To be effective the safety coordinator should not have other competing roles that would inevitably face an event organizer during the event.

26 Crowd management, crowd control and contingency planning

26.1 Planning

26.1.1 The event organizer shall have a crowd management plan, based on the risk assessment, which will include detailed allocation of responsibilities and coordination of activities related to ensuring the health, safety and security of the employees, attendees and performers at the event. In order to develop the plan the event organizer shall identify the following matters:

a) The nature of the event;

b) The number and profile of people expected to attend; and

c) The manner in which people will be expected to get to the event.

The event organizer will then use this information to plan the following:

a) Facilities for people with special needs;

b) Admission policies;

c) Entrances and exits;

d) Transport management (including parking and park-and-ride facilities);

e) Medical facilities management;

f) Crowd pressure control;

g) Refreshments, food and water facilities; and

h) Internal and external communication with the attendees.

26.1.2 Staff with safety roles shall wear easily identifiable tabards or other high-visibility items of clothing. These allow attendees to seek them out as a source of assistance and to recognize their authority when appropriate. If attendees are being directed along a route of safety, stewards in high-visibility clothing can help indicate the way much more clearly.

NOTE Colored (preferably fluorescent colours) vests or bibs should be considered.

26.2 Entry and exit of the attendees

26.2.1 The event organizer shall plan for the entry and exit of the attendees. The plan based on the risk assessment shall include the expected number of people, the anticipated route and modes of transport. Based on these projections, the plan shall include

a) The number and size of entrances,

b) Fire and emergency facilities,

c) Locking of all exits for entry to the event in accordance with local by-laws,

d) Escape routes clearance of obstruction,

e) Queue chutes – if needed to alleviate pressure on entrances,

f) Provision of emergency lighting and fire-fighting equipment, and

g) Contingencies – what to do when fences, funnels, barriers, etc. collapse.

26.2.2 Before the attendees enter the venue, the event organizer shall ensure that

a) Checks are made of all fire and emergency facilities,

b) All exits are unlocked,

c) All escape routes are clear,

d) Emergency lighting is in working order,

e) fire-fighting equipment and alarms are in working order,

f) Entrances and exits are clearly sign-posted and operate efficiently,

g) Separate entrances and exits for pedestrian access have been provided from entry routes used for emergency services and concession vehicles,

h) Information has been provided to the attendees about any restricted exits that are not in use while the event is in progress,

i) Entrances and exits are clearly sign-posted in compliance with national building regulations (where applicable), and

j) Any restricted exits are clearly demarcated.

26.3 Opening time

The event organizer shall plan to allow public access to the event sufficient before the event is due to start, based on the nature of the event and the number of people anticipated. The plan should include the following:

a) Clearly advertising the event start time and opening time;

b) Starting times to avoid public transport and traffic peaks, as appropriate;

c) Outside video/display screens to provide information and footage to minimize the risk of crushing where significant portions of the attendees have not yet entered at the event starting time (refer to the risk assessment); pre-event entertainment to encourage a staggered arrival of the attendees should be considered;

d) in the case of significant crowding before the starting time, opening of the gates before published time, provided that on-site services are ready; and

e) Contingencies to delay the start in the event of unforeseen circumstances.

26.4 Crowd pressure at entrances

Depending on the nature of the event, crowd pressure at entrances should be reduced by:

a) Keeping all other activities, including mobile concessionaires, clear of entry points;

b) Arranging for adequate queuing areas, including queue chutes away from entrances;

c) Creating holding areas away from entrances;

d) Ensuring that barriers, fences and gates are suitable and sufficient for the anticipated number of people;

e) Locating ticket sales and pick-up points away from entrances;

f) Providing a sufficient number of trained and competent stewards;

g) Providing for off-site ticket sales and collection;

h) If tickets are sold at the venue, setting ticket prices to amounts that require minimum change to prevent shortages; and

i) Where large crowds are anticipated, no selling of tickets at the venue on the day of the event.

Staggered/phased access should be used in such cases, which will require additional staff.

26.5 Body searching

Where body searching is to be carried out the event organizer shall provide appropriate signage to authorize security personnel to carry out appropriate searches with the necessary protective surgical gloves.

The planning shall include the provision of adequate and appropriate security officers for the anticipated crowd. This shall include the provision of female officers and facilities to search female attendees.

Searches at entrances might be necessary to prevent prohibited items from being brought onto site, on provision that the appropriate signage (such as "right of admission reserved" and a list of restricted items) is displayed.

26.6 The pit

The event organizer shall plan for an area between the stage and the audience to allow for a pit.
The plan shall include the provision of crowd barriers.

Staff present in the pit shall include

a) Registered and authorized security officers, and

b) Staff responsible for the provision of water and medical services.

If a secondary barrier is provided the above will apply.

26.7 Late leavers

The event organizer shall appoint stewards who will, at the end of the event, clear the venue, thus ensuring that all attendees who entered the site have left. The following can be used to clear the venue:

a) Parade marshalling;

b) stewards forming a line in front of the stage and slowly walking to the furthermost exit, thereby moving the remaining attendees out of the area; and

c) Public announcements reminding attendees to leave, this will help with a staggered/phased exit. Playing music on the PA system will encourage attendees to stay longer.

26.8 Admission policies

26.8.1 The event organizer shall establish and clearly communicate an admission policy. When formulating the policy, the following shall be considered:

a) Pass-outs that enable attendees to leave the event for a short time and to return. These pass-outs should be controlled so as to avoid abuse of this system.

b) Guest/VIP/restricted areas that might necessitate separate access points for access of particular types of ticket holders, for example, guests, VIPs, artists, workers, officials and emergency services workers. Consideration should be given to the location of the gates between these areas and the main arena in order to prevent crowd build-up at such points.

26.8.2 The admission policy can have a direct effect on the rates of admission, management of entrance areas and audience accommodation in general. The following points are recommended:

a) Cash sales – to ensure a steady flow of people into the venue when entry is by cash, the admission price should be set at a round figure. This avoids the need for handling large amounts of small change. Where possible, the cash point should be located away from the entrances.

b) Ticket-only sales – the advantage of confining entry to ticket-only is that the rate of admission should be higher than that for cash sales. If tickets are sold at the event, separate sales outlets should be provided, wherever possible.

c) No ticket sales on-site – if all tickets have been sold out in advance, or if tickets are not sold on-site, every effort should be made to publicize this fact in the media. In addition, signs advising people of the situation should be placed along all approaches to the event. This is to avoid unnecessary build-up of crowds outside the venue.

26.9 Facilities for people with special needs

Where the event organizer provides facilities for people with special needs, the event organizer shall ensure that the necessary resources are provided. The planning of these facilities should include planning for special access, ramps, facilities and viewing areas in compliance with the national building regulations and other applicable legislation. In the event of an emergency, the evacuation of people with special needs can pose significant problems and should be taken into account in the plan.

NOTE People with special needs can include people with mobility problems (including wheelchair users), difficulty in walking, and impaired vision or hearing. Bear in mind that women, children, the elderly and people with disabilities are highly vulnerable to crushing.

26.10 Opening entrances and front-of-stage area

The event organizer shall provide a line(s) of stewards across the arena through which the audience can move towards the stage in an orderly manner. This should be supplemented by PA announcements to keep the audience informed about what is happening.

When entrances are first opened at non-seated events, the audience tends to rush towards the front, which can cause tripping accidents and injuries. Careful consideration shall be given to the way in which the area in front of the stage will be managed and stewarded when the entrances are opened. If a standing area is provided in front

of the stage, the entrances shall not lead directly to this area from stage right or left.

26.11 Ticketing

Since ticketing policies have a direct effect on the safe management of the audience, the event organizer shall ensure that:

a) Where a capacity or near-capacity attendance is expected for an event, admission shall be by advance ticketing only;

b) Tickets for seats that offer restricted views or that are uncovered, shall be marked accordingly, and the buyer forewarned;

c) Seats with severely restricted views shall not be used;

d) Part of the ticket that is retained by the attendee after passing through a ticket control point shall clearly identify the location of the accommodation for which it has been issued;

e) A simplified, understandable ground plan shall be shown on the ticket;

f) If there is more than one entrance, colour-coded tickets shall correspond to different entrances and the audience shall be proportionally divided between entrances;

g) all sections of the venue, aisles, rows and individual seats shall be clearly marked or numbered, in accordance with the ticketing information; and

h) The controlling authority is notified by the event organizer or contracted service provider (or both) such as ticket sales agencies of the ticket sales progress in order to determine the necessary resources to be deployed in accordance with the population certificate issued, depending on the venue.

26.12 Police involvement

The event organizer shall ensure that the agreement between the responsibilities of the police and the stewards during an event is documented.

Such agreement shall be documented in a statement of intent. A statement of intent is a management statement and not a legal document.

26.13 Stewards and security personnel

26.13.1 The main responsibility of stewards and security officers is crowd management. They are also there to assist the police and other emergency services if necessary. Apart from the specialist security officers provided for the protection of the performers, the use of separate teams for security and stewards shall not be considered without consultation with the relevant stakeholders. The roles of these two groups are closely interlinked and lack of communication can lead to ineffective crowd management. Crowd management is not simply achieved by attempting to control the audience, but by trying to understand their behavior and various factors that can affect this.

The risk assessment will help to establish the number of stewards necessary to manage the audience safely. When preparing a risk assessment for crowd management, a comprehensive survey shall be carried out to assess the various parts of the site and the size and profile of the audience shall be considered. Basing

stewarding security deployment numbers on the risk assessment rather than on a precise mathematical formula will allow a full account to be taken of all relevant circumstances, including previous experience.

To manage the audience, stewards shall be located at key points, such as barriers, pit areas, gangways, entrances, exits, the mixer desk and delay towers. The stewards that are responsible for crowd monitoring shall face the crowd. They shall also ensure that people are properly seated and do not obstruct stairs and exit routes.

26.13.2 Many factors, such as the following, might introduce the potential for crowd movement and should therefore be considered at the venue and site-design stage:

a) multiple-stage entertainment;

b) Provision of satellite stages, platforms and stage thrusts;

c) Sound and video towers;

d) sight-line obstructions or restricted views;

e) multiple-barrier systems and pens;

f) Location of facilities;

g) The psychological state of the audience; and

h) Special effects.

26.13.3 The factors to be considered for the risk assessment include the following:

a) Previous experience of specific behavior associated with the performers and audience;

b) Uneven ground, presence of obstacles, etc, within or around the site, that affect flow rates;

c) The length of the perimeter fencing;

d) The type of stage barrier and any secondary barriers; and

e) The provision of seating.

26.13.4 The event organizer shall establish a chain of command. A chief steward shall be appointed to be responsible for the effective management of all stewarding contractors at the event.
(This could be a role of the safety coordinator.) Appointing stewarding contractors will depend on the nature and size of the event and venue but may include

a) A chief steward,

b) A number of senior supervisors, responsible for specific tasks, who report directly to the chief steward, and

c) A number of supervisors who report directly to a senior supervisor and who are normally in charge of six to ten stewards.

26.13.5 The event organizer and appointed security company shall have a written agreement between the parties, outlining the roles, responsibilities and staff deployment, a checklist (if this is appropriate), and a plan showing key features. The stewards shall be briefed before the event, particularly about communicating with supervisors and other role players in the event of a major incident.

26.14 Conduct of stewards

The event organizer shall ensure that all stewards are fit to carry out their allocated duties. While on duty, the stewards shall concentrate only on their duties and not on the performance. The event organizer shall also ensure that stewards understand that they shall

a) Not leave their place without permission,

b) Not consume or be under the influence of alcohol or other drugs,

c) remain calm and be courteous towards all members of the audience,

d) Wear uniform distinctive clothing and be individually identifiable,

e) Understand their general responsibilities towards the health and safety of all categories of the audience (including those with special needs and children), other stewards, event workers and themselves,

f) Carry out pre-event safety checks,

g) be familiar with the layout of the site and be able to assist the audience by giving information about the available facilities, including facilities for emergency care, water, welfare, people with special needs, and toilets,

h) Man the entrances, exits and other strategic points; for example, exit doors or gates that are not continuously secured in the open position while the event is in progress;

i) Control or direct the audience as they enter or leave the event, to help achieve an even flow of people into and from the various parts of the site;

j) Recognize crowd conditions to ensure the safe dispersal of the audience and the prevention of overcrowding;

k) Assist in the safe operation of the event by keeping gangways and exits clear at all times and by preventing people standing on seats and furniture;

l) Investigate any disturbances or incidents;

m) Ensure that combustible refuse does not accumulate;

n) Respond to emergencies (such as the early stages of a fire), raising the alarm and taking the necessary immediate action;

o) Be familiar with the arrangements for evacuating the audience, including the handling of coded messages and undertaking specific duties in an emergency; and

p) Communicate with the incident control centre in the event of an emergency.

NOTE 1 Records of observations may be in the form of a metrologist's note that should contain sufficient information to establish an audit trail.

NOTE 2 Technical records are accumulations of data and information that result from carrying out verification and that indicate whether specified quality or process parameters are achieved. These records should include forms, contracts, test sheets, workbooks, verification certificates and clients' feedback.

26.15 Welfare of stewards

The event organizer shall ensure that stewards are not stationed for long periods near loudspeakers and that they are provided with ear protection in accordance with any relevant noise regulations and the relevant national

health and safety legislation (see foreword).

Stewards will need adequate rest breaks; therefore arrangements shall be in place for them to have intervals. These intervals shall be agreed upon among event organizers, stewards and local authorities.

Stewards may only leave their posts when relieved by another steward. Provision shall be made for reserve contingent to perform this task.

27 Transport and traffic management

27.1 Transport management

The event organizer shall consult timeously with the appropriate transport, road and traffic authorities to identify all the needs, for example route planning, road closures, restrictions, applications and approvals.

The event organizer shall

a) Plan for the management of vehicle parking and identify the likely resources required and methods to be used for parking management.

b) Ensure that car and bus parks are adequately lit, sign-posted and labeled with reflective numerals or letters so that vehicles can be easily located at the end of an event or in any emergency.

c) Plan provision for the entry and exit of emergency service vehicles. These routes shall be separated and safeguarded.

d) For large events, plan for the possibility of providing for road closures, banned turns, lane closures, parking restrictions, temporary speed limits and lay-by closures and traffic free zones.

e) Consult with the local traffic authority to ensure that traffic management arrangements and temporary traffic regulation orders are in place.

f) Keep in mind that only the local authority approves road closures and provisions for road closures regarding, for example traffic officials, signage, barriers and public notices.

27.2 Traffic marshalling

Only the traffic police, police or someone under their direction can legally undertake traffic regulation on public roads. Therefore the event organizer shall consult with them to secure the appropriate provision of resources. Stewards directing traffic on-site shall have suitable personal protective equipment, such as high-visibility clothing, torches for night events and weather protection.

The event organizer shall ensure that there is suitable and sufficient communication between on-site and off-site traffic marshalling regarding temporary one-way systems etc. Also, adequate numbers of stewards shall be provided to manage traffic flows and to deal with parking of vehicles

27.3 Mass transport

Planning the arrival and departure of buses can greatly reduce congestion at the beginning and end of an event. Careful consideration should be given to the routing of such vehicles. The event organizer shall plan for parking areas and access roads to reduce as far as possible the need for buses to reverse. The use of one-way routes should be considered.

Private bus operators are often prepared to provide special shuttle bus services between local rail and bus stations, or “park-and-ride” areas. However, shuttle bus systems might not be appropriate for all events.

Congestion caused by a natural mass departure at the end of an event is likely to prohibit free flow of traffic routes and consequently shuttle buses can become unable to operate effectively.

For large events, the appointment of a traffic management coordinator, who shall be a member of the VOC, shall be considered. Such coordinator will liaise with the police, car park management, traffic police and local authority.

27.4 Vehicle access

The event organizer shall ensure that the road signs are appropriate and easily visible, the capacities of the parking areas are adequate and the surface is capable of withstanding the anticipated traffic volume. Using hardcore, track way or other suitable temporary surfacing that can prevent damage to the ground and that might prove invaluable in wet ground conditions should be considered.

Detailed capacity assessments might be needed to ensure that the access entry capacity is adequate. Methods for ensuring the safe exit of vehicles from the site need just as much careful planning.

The planning of alternative routes and accesses should be considered. These can be used if main access points or routes become blocked.

Vehicle access for service vehicles, for example waste collection vehicles and sanitary servicing vehicles, before, during and after the event shall be planned. Large colour-coded parking permits with the vehicle registration number reduce vehicle access problems.

27.5 Parking

The event organizer shall plan separate parking areas for the general audience traffic, vehicles for people with special needs (close to the event site), buses, shuttle buses, guests/VIPs, artists, emergency service workers and event workers. Overspill-parking facilities either on site or at a convenient location off-site to accommodate the potential for excess attendees should also be planned. This should take the form of a vehicular circulation/holding area as a temporary measure.

Car and bus parks shall be adequately lit, signposted and labeled with reflective numerals or letters so that vehicles can be easily located at the end of an event or in any emergency. The bus park shall be separate from the car park. For outdoor events, signs shall be positioned at exit gates leading from the parking area to the venue to assist in identifying the location of parked vehicles. Clear signs for exiting vehicles showing route direction shall be considered.

27.6 Emergency access

The event organizer shall plan provision for the entry and exit of emergency service vehicles. These routes shall be separated and safeguarded. The routes and access chosen shall allow for means of access by the fire brigade to within 30 m of any structure, including fuel storage facilities. The access route will need to bear the weight of fire appliances. The use of manhole covers shall be avoided on these routes. These routes shall be signposted.

The event organizer shall consult the local authorities concerning access route specification and incorporate this into the transport management plan. In this respect, early application for road closures and temporary traffic regulation orders shall be required. It is also important to identify allocated emergency vehicle rendezvous points in the transport management plan.

27.7 Pedestrians

The event organizer shall identify safe means of entry and exit for pedestrians, ideally restricting vehicles

access. Where pedestrian access is difficult, alternative means of access shall be provided, for example, shuttle buses to collect pedestrians en route. Special arrangements shall be made for persons with disabilities and those who might not be able to walk long distances. Entry and exit routes that cross car or bus parks and traffic routes shall be avoided; where this is unavoidable, adequate traffic control measures shall be planned.

27.8 On-site vehicle management and temporary roadways

27.8.1 It is important to minimize traffic movement within the site in order to avoid accidents between vehicles and pedestrians.

27.8.2 Vehicles shall be moved into the parking areas as efficiently as possible and a dedicated access to parking areas with no ticket checks on entry shall be in place. In some circumstances, ticket checks can be undertaken on pedestrian exits from the parking into the event area. This might, however, not be practicable for camping events.

27.8.3 Traffic movement shall be restricted in the event arenas except to emergency service vehicles and other essential services.

27.8.4 Speed restrictions shall be enforced on-site and separate access for production vehicles shall be planned.

27.8.5 Temporary roadways are useful to allow suitable hard-surfaced access for pedestrians and service vehicles. Temporary access roads shall be planned, ideally to provide for two-way emergency access or one-way with passing places and working space, as appropriate.

27.8.6 All vehicles on-site shall switch on lights at night time when in motion in order to avoid pedestrian and vehicle accidents.

27.8.7 The safe entrance to and exit of the site during the build-up (and breakdown) of the event of vehicles for the delivering of equipment and provisions shall be planned.

27.8.8 Where vehicle routes change from those arranged at planning stage, owing to heavy rain or some other unforeseen circumstance, arrangements shall be in place for reinforcing the alternative route. Safe vehicle recovery from soft ground shall be planned.

27.9 Fork lift trucks

The event organizer shall ensure that

a) No person is permitted to operate a fork lift truck unless such person have been licensed to do so,

b) Licensed operators have a certificate from an accredited entity indicating the type of fork lift truck for which they have received training,

c) Hired fork lift trucks have a valid certificate of inspection and testing, issued by an LMI,

d) The fork lift truck is marked with the safe working load (SWL), and

e) No person shall be lifted by means of a fork lift.

A certificate to drive one type of fork lift truck does not qualify an operator to drive other types of forklift trucks.

If national legislation dictates the operation and maintenance of fork lift trucks during operation, such legislation shall be adhered to.

27.10 Other vehicles used on-site

27.10.1 There might be a need for other types of vehicles to operate on-site, such as:

a) Specialized lifting vehicles, such as scissor lifts and mobile elevating work platforms (MEWPs);

b) Vehicles used to deliver equipment around the site or venue, for example, golf buggies and electric carts; and

c) Other vehicles, for example, tractors, trailers and waste-collection vehicles.

Where possible, deliveries shall be made before members of the public are admitted. Deliveries shall be restricted during the event. Planning shall be done.

27.10.2 The use of all vehicles on-site shall be carefully planned and monitored to ensure that accidents do not result from the incorrect t use of vehicles or that pedestrians are not injured as a result of the use of such vehicles

